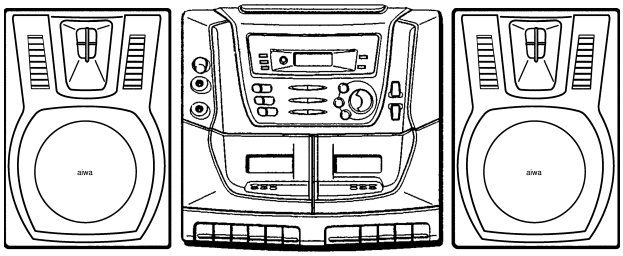
aiwa
SERVICE

CA-DW538 LH(S),U(S)



SERVICE MANUAL

COMPACT DISC CARRY
COMPONENT SYSTEM

BASIC TAPE MECHANISM : ZZM-2 APR3NC
BASIC CD MECHANISM : DA11T3C

aiwa

S/M Code No. 09-012-354-3N1

DATA

SPECIFICATIONS

LH MODEL

Tuner section
Frequency range, antenna — FM: 87.5 - 108.0 MHz Rod antenna, AM: 530/531 - 1,710/1,602 kHz (10/9 kHz step) Ferrite bar antenna

Deck section
Track format — 4 tracks, 2 channels / Frequency range — Normal tape: 50 - 12,000 Hz (EIAJ) / Recording system — AC bias / Erasing system — Magnet erase / Heads — Deck 1: Recording/playback head (1), Erasure head (1); Deck 2: Playback head (1)

CD player section
Disc — Compact disc / Scanning method — Non-contact optical scanner (semiconductor laser) / Rotation speed — Approx. 500 - 200 rpm/CLV / Error correction — Cross interleave, Reed, Solomon code / Number of channels — 2 channels / D/A conversion — 1 bit DAC

General
Power requirements — DC 12 V using eight size D (R20) batteries, AC 110-120 V / 220-240 V switchable, 50 / 60 Hz / Dimensions (W × H × D) — 274 × 245 × 211 mm / Weight — 3.1 kg (excluding batteries) / Power output — 5 W + 5 W (EIAJ, 2.7 ohms DC), 3.5 W + 3.5 W (DIN 1% Rated Power) / Power consumption — 27 W

Speaker
Type — 120 mm cone type / Dimensions (W × H × D) — 160 × 236 × 170 mm / Weight — Approx. 0.9 kg × 2 / Impedance — 2.7 ohms / Allowable max. input — 7 W

- Design and specifications are subject to change without notice.

U MODEL

Tuner section
Frequency range, antenna — FM: 87.5 - 108.0 MHz Rod antenna, AM: 530/531 - 1,710/1,602 kHz (10/9 kHz step) Ferrite bar antenna

Deck section
Track format — 4 tracks, 2 channels / Frequency range — Normal tape: 50 - 12,000 Hz (EIAJ) / Recording system — AC bias / Erasing system — Magnet erase / Heads — Deck 1: Recording/playback head (1), Erasure head (1); Deck 2: Playback head (1)

CD player section
Disc — Compact disc / Scanning method — Non-contact optical scanner (semiconductor laser) / Rotation speed — Approx. 500 - 200 rpm/CLV / Error correction — Cross interleave, Reed, Solomon code / Number of channels — 2 channels / D/A conversion — 1 bit DAC

General
Power requirements — DC 12 V using eight size D (R20) batteries, AC 120 V, 60 Hz / Dimensions (W × H × D) — 274 × 245 × 211 mm ($10\frac{7}{8} \times 9\frac{3}{4} \times 8\frac{3}{8}$ in.) / Weight — 3.1 kg (6 lbs. 13 oz.) (excluding batteries) / Power output — 5 W + 5 W (EIAJ, 2.7 ohms DC) / Power consumption — 20 W

Speaker
Type — 120 mm cone type / Dimensions (W × H × D) — 160 × 236 × 170 mm ($6\frac{3}{8} \times 9\frac{3}{8} \times 6\frac{3}{4}$ in.) / Weight — Approx. 0.9 kg (2 lbs.) × 2 / Impedance — 2.7 ohms / Allowable max. input — 7 W

- Design and specifications are subject to change without notice.

ACCESSORIES/PACKAGE LIST-1/1

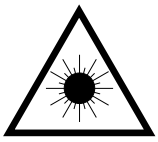
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CT5-902-010		IB,LH(ESP)FM<LHSC>
1	8B-CT5-903-010		IB,U(ESF)FM<USC>
2	8A-CLB-961-010		RC UNIT,RC-AAT11
⚠ 3	87-A80-036-010		AC CORD SET ASSY,E W/FLTR VOL<LHSC>
⚠ 3	87-A80-109-010		AC CORD,HK7281 BLK U<USC>
⚠ 4	87-A91-017-010		PLUG,CONVERSION JT-0476<LHSC>

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

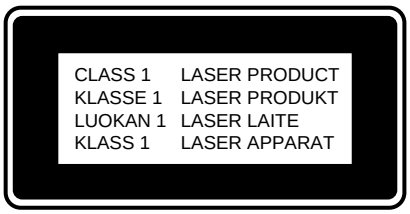
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

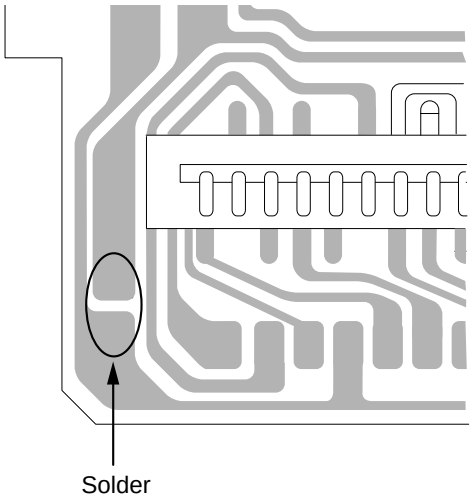


Precaution to replace Optical block (SF-P101NR)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



ELECTRICAL MAIN PARTS LIST-1/4

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-550-010		IC,TA2149N
	87-A21-185-040		C-IC,LC72121M
	87-A21-090-010		IC,LA4600
	87-A21-416-040		C-IC,M61500FP
	87-020-828-010		IC,BA3416BL
	87-001-440-010		IC,BA15218N
	87-A20-446-010		C-IC,LA9241ML
	87-A21-319-010		C-IC,LC78622NE
	87-A21-093-010		IC,LA6541D
	8B-CT5-625-010		IC,LC867132V5T98
	87-A21-831-010		IC,SPS-442-1-F1
TRANSISTOR			
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-447-080		TR,2SC1740S R
	89-111-624-080		TR,2SA1162Y
	87-A30-288-040		C-TR,DTC114YKA
	89-327-125-080		CHIP TR,2SC2712GR
	89-320-011-080		TR,2SC2001 (15W)
	87-026-462-080		TR,2SC1740 S(RS 0.3W)
	87-026-291-080		TR,DTC124XS
	89-109-332-380		TR,2SA933RS
	87-A30-515-080		TR,2SA1979O/Y
	87-026-239-080		TR,DTC114TK (0.2W)
	87-026-210-080		CHIP-TR,DTC144EK
	89-112-965-080		TR,2SA1296 (0.75W)
	87-026-463-080		TR,2SA933S (0.3W)
	87-A30-226-010		TR,2SB1655E
	89-318-154-080		TR,2SC1815 (0.4W)
	87-026-291-010		TR,DTC124XS
	87-026-463-010		TR,2SA933S,RS
	87-026-464-010		TR,DTC114TS
	87-026-610-080		TR,KTC3198GR
	89-322-405-080		TR,2SC2240GR
DIODE			
	87-020-465-080		DIODE,1SS133 (110MA)
	87-A40-616-070		VARI-CAP,SVC384(S/T)
	87-A40-916-040		C-VARI-CAP,HVC202A
	87-017-072-080		ZENER,HZS3B1
	87-070-345-080		DIODE,IN4148
	87-A40-509-080		ZENER,MTZJ6.8C
	87-A40-648-080		ZENER,MTZJ8.2A
	87-017-932-080		ZENER,MTJ6.2B
	84-RM1-695-010		DIODE,1N4148
	87-A40-465-010		DIODE,FR202
MAIN C.B			
ANT1	87-A92-048-010		ANT,ROD 5SEC
C1	87-010-314-080		C-CAP,S 22P-50V
C2	87-010-316-080		C-CAP,S 33P-50 CH
C3	87-010-314-080		C-CAP,S 22P-50V
C5	87-016-669-080		C-CAP,S 0.1-25 K B
C6	87-010-313-080		CAP, CHIP 18P
C7	87-012-140-080		CAP 470P
C8	87-012-349-080		C-CAP,S 1000P-50 CH
C10	87-010-197-080		CAP, CHIP 0.01 DM
C11	87-010-197-080		CAP, CHIP 0.01 DM
C12	87-010-197-080		CAP, CHIP 0.01 DM
C13	87-010-149-080		C-CAP,S 5P-50 CH<USC>
C14	87-010-303-080		C-CAP,S 330P-50CH
C15	87-012-349-080		C-CAP,S 1000P-50 CH
C16	87-010-374-080		CAP, ELECT 47-10V
C17	87-010-194-080		CAP, CHIP 0.047
C18	87-015-835-080		C-CAP,0.047 D
C19	87-010-263-080		CAP, ELECT 100-10V
C20	87-010-404-080		CAP, ELECT 4.7-50V
C21	87-010-197-080		CAP, CHIP 0.01 DM
C22	87-010-197-080		CAP, CHIP 0.01 DM
C23	87-010-197-080		CAP, CHIP 0.01 DM
C25	87-016-460-080		C-CAP,S 0.22-16 B
C26	87-018-131-080		CAP, CER 1000P-50V
C27	87-A11-067-080		C-CAP,S 1-10 K B
C28	87-016-669-080		C-CAP,S 0.1-25 K B
C29	87-016-669-080		C-CAP,S 0.1-25 K B
C30	87-010-593-080		CHIP S, 0.027-16V RK
C31	87-010-593-080		CHIP S, 0.027-16V RK
C33	87-012-353-080		C-CAP,0.33-16 R
C34	87-012-353-080		C-CAP,0.33-16 R
C35	87-015-819-080		CAPACITOR,0.01
C36	87-010-263-080		CAP, ELECT 100-10V
C37	87-010-197-080		CAP, CHIP 0.01 DM
C38	87-010-374-080		CAP, ELECT 47-10V
C39	87-010-404-080		CAP, ELECT 4.7-50V
C40	87-010-197-080		CAP, CHIP 0.01 DM
C41	87-012-349-080		C-CAP,S 1000P-50 CH
C42	87-012-349-080		C-CAP,S 1000P-50 CH
C43	87-012-349-080		C-CAP,S 1000P-50 CH
C44	87-010-312-080		C-CAP,S 15P-50 CH
C45	87-010-312-080		C-CAP,S 15P-50 CH
C46	87-010-197-080		CAP, CHIP 0.01 DM
C47	87-010-197-080		CAP, CHIP 0.01 DM
C48	87-010-197-080		CAP, CHIP 0.01 DM
C49	87-012-140-080		CAP 470P
C50	87-010-197-080		CAP, CHIP 0.01 DM
C71	87-010-197-080		CAP, CHIP 0.01 DM
C72	87-010-263-080		CAP, ELECT 100-10V
C73	87-010-197-080		CAP, CHIP 0.01 DM
C75	87-010-197-080		CAP, CHIP 0.01 DM
C91	87-010-197-080		CAP, CHIP 0.01 DM
C92	87-010-197-080		CAP, CHIP 0.01 DM
C93	87-010-197-080		CAP, CHIP 0.01 DM
C215	87-A10-201-080		C-CAP,S0.33-16 KB
C216	87-A10-201-080		C-CAP,S0.33-16 KB
C231	87-015-632-080		C-CAP,0.015-50 B
C232	87-015-632-080		C-CAP,0.015-50 B
C233	87-A10-201-080		C-CAP,S0.33-16 KB
C234	87-A10-201-080		C-CAP,S0.33-16 KB
C235	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C236	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C237	87-010-374-080		CAP, ELECT 47-10V
C238	87-010-248-080		CAP, ELECT 220-10V
C239	87-010-197-080		CAP, CHIP 0.01 DM
C240	87-010-197-080		CAP, CHIP 0.01 DM
C241	87-010-401-080		CAP, ELECT 1-50V
C242	87-010-401-080		CAP, ELECT 1-50V
C243	87-010-401-080		CAP, ELECT 1-50V
C244	87-010-401-080		CAP, ELECT 1-50V
C245	87-010-401-080		CAP, ELECT 1-50V
C246	87-010-401-080		CAP, ELECT 1-50V
C247	87-010-404-080		CAP, ELECT 4.7-50V
C248	87-010-404-080		CAP, ELECT 4.7-50V
C251	87-010-911-080		CAP,E 10-50 ASF
C261	87-010-401-080		CAP, ELECT 1-50V
C262	87-010-401-080		CAP, ELECT 1-50V
C263	87-010-178-080		CHIP CAP 1000P
C264	87-010-178-080		CHIP CAP 1000P
C266	87-010-545-080		CAP, ELECT 0.22-50V
C267	87-010-545-080		CAP, ELECT 0.22-50V
C271	87-010-237-080		CAP, ELECT 1000-16V
C272	87-010-237-080		CAP, ELECT 1000-16V
C277	87-010-404-080		CAP, ELECT 4.7-50V
C278	87-010-112-080		CAP, ELECT 100-16V
C279	87-010-112-080		CAP, ELECT 100-16V
C280	87-010-178-080		CHIP CAP 1000P

ELECTRICAL MAIN PARTS LIST-2/4

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C281	87-010-178-080		CHIP CAP 1000P
C285	87-010-178-080		CHIP CAP 1000P
C287	87-010-178-080		CHIP CAP 1000P
C288	87-010-545-080		CAP, ELECT 0.22-50V
C291	87-010-404-080		CAP, ELECT 4.7-50V
C293	87-010-404-080		CAP, ELECT 4.7-50V
C298	87-010-197-080		CAP, CHIP 0.01 DM
C299	87-010-197-080		CAP, CHIP 0.01 DM
C301	87-012-157-080		C-CAP,S 330P-50 CH
C302	87-012-157-080		C-CAP,S 330P-50 CH
C303	87-010-177-080		C-CAP,S 820P-50 SL
C304	87-010-177-080		C-CAP,S 820P-50 SL
C305	87-010-374-080		CAP, ELECT 47-10V
C306	87-010-374-080		CAP, ELECT 47-10V
C307	87-010-382-080		CAP, ELECT 22-25V
C308	87-010-405-080		CAP, ELECT 10-50V
C309	87-010-404-080		CAP, ELECT 4.7-50V
C310	87-010-404-080		CAP, ELECT 4.7-50V
C311	87-010-248-080		CAP, ELECT 220-10V
C312	87-010-374-080		CAP, ELECT 47-10V
C313	87-015-834-080		C-CAP,0.033-25
C314	87-015-834-080		C-CAP,0.033-25
C315	87-010-401-080		CAP, ELECT 1-50V
C316	87-010-401-080		CAP, ELECT 1-50V
C317	87-010-382-080		CAP, ELECT 22-25V
C318	87-010-382-080		CAP, ELECT 22-25V
C319	87-010-405-080		CAP, ELECT 10-50V
C320	87-010-405-080		CAP, ELECT 10-50V
C321	87-012-157-080		C-CAP,S 330P-50 CH
C322	87-012-157-080		C-CAP,S 330P-50 CH
C323	87-010-197-080		CAP, CHIP 0.01 DM
C324	87-010-197-080		CAP, CHIP 0.01 DM
C325	87-010-180-080		C-CER 1500P
C326	87-010-180-080		C-CER 1500P
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-178-080		CHIP CAP 1000P
C329	87-010-182-080		C-CAP,S 2200P-50 B
C330	87-010-213-080		C-CAP,S 0.015-50 B
C331	87-010-263-080		CAP, ELECT 100-10V
C334	87-012-155-080		C-CAP 180P-50CH
C341	87-012-157-080		C-CAP,S 330P-50 CH
C342	87-012-157-080		C-CAP,S 330P-50 CH
C343	87-012-157-080		C-CAP,S 330P-50 CH
C344	87-010-303-080		C-CAP,S 330P-50CH
C363	87-010-182-080		C-CAP,S 2200P-50 B
C364	87-010-182-080		C-CAP,S 2200P-50 B
⚠C501	87-010-453-010		CAP, ELECT 4700-25V
C506	87-010-404-080		CAP, ELECT 4.7-50V
C507	87-010-401-080		CAP, ELECT 1-50V
C508	87-010-221-080		CAP, ELECT 470-10V
C511	87-010-374-080		CAP, ELECT 47-10V
C512	87-010-385-080		CAP, ELECT 220-25V
C513	87-010-197-080		CAP, CHIP 0.01 DM
C515	87-010-197-080		CAP, CHIP 0.01 DM
C521	87-010-197-080		CAP, CHIP 0.01 DM
C522	87-010-263-080		CAP, ELECT 100-10V
C544	87-010-405-080		CAP, ELECT 10-50V
C761	87-010-112-040		CAP,E 100-16
C762	87-010-198-080		CAP, CHIP 0.022
C765	87-016-669-080		C-CAP,S 0.1-25 K B
CF1	87-A91-094-010		FLTR,CDA10.7 MG80A
CF2	82-785-747-080		CF,MS2 GHY,R
CF3	82-785-747-080		CF,MS2 GHY,R
CN301	8B-CT5-616-010		CONN ASSY,4P 2791 30AWG PH
CN302	8B-CT5-617-010		CONN ASSY,5P 2791 30AWG PH
CN501	87-049-919-010		CONN,3P EH V WHT
CN751	8B-CT5-618-010		CONN ASSY,8P 1007 26AWG PH
CON201	88-CT6-621-010		SP TERMINAL 4P LEVER
HD1	88-CD6-661-010		HLDR,BAR ANT.
HD2	88-CD6-661-010		HLDR,BAR ANT.

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
JW13	87-003-102-080		COIL, 10UH
JW18	87-008-372-010		FILTER, EMI BL OIRNI
JW20	87-008-372-010		FILTER, EMI BL OIRNI
JW258	87-008-372-010		FILTER, EMI BL OIRNI
JW260	87-008-372-010		FILTER, EMI BL OIRNI
JW264	87-008-372-010		FILTER, EMI BL OIRNI<USC>
L2	87-A50-560-010		COIL,FM BPF(ACD)
L3	8A-CH4-670-010		BAR-ANT,MW 2B-ACH(COI)
L4	87-A50-420-010		COIL,MW OSC(SYN)
L5	87-A50-566-010		COIL,FM RF EX(ACH)
L6	87-A50-568-010		COIL,FM OSC EX(ACH)
L7	87-A91-308-010		FLTR,PCFAZH- 450T (TOK)
L8	87-005-849-080		COIL,10UH(CECS)
L9	87-005-849-080		COIL,10UH(CECS)
L90	87-003-152-080		COIL, 100UH
L201	87-008-372-010		FILTER, EMI BL OIRNI
L330	88-CT6-620-010		REC OSC
PN301	87-A60-110-010		CONN,4P V S2M-4W
PN302	87-A60-111-010		CONN,5P V S2M 5W
PN751	87-099-832-010		CONN,8P S2M-8W
R761	87-029-019-010		RES, FUSEIBLE 1/2W-2.2
SFR761	87-024-524-080		SFR,22K DIA 6V NTP
SW301	88-CT6-619-010		BACK SLIDE SW 6P2T SHORTIN
TC1	87-011-254-080		TRIMER,20P LAR
X1	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

CD C.B

C401	87-010-403-080		CAP, ELECT 3.3-50V
C402	87-010-197-080		CAP, CHIP 0.01 DM
C403	87-010-263-080		CAP, ELECT 100-10V
C404	87-010-248-080		CAP, ELECT 220-10V
C405	87-010-197-080		CAP, CHIP 0.01 DM
C406	87-010-374-080		CAP, ELECT 47-10V
C407	87-010-178-080		CHIP CAP 1000P
C408	87-010-198-080		CAP, CHIP 0.022
C409	87-010-248-080		CAP, ELECT 220-10V
C410	87-010-263-080		CAP, ELECT 100-10V
C411	87-A11-177-080		C-CAP,S 0.15-16 K B
C412	87-010-401-080		CAP, ELECT 1-50V
C413	87-016-369-080		C-CAP,S 0.033-25 B K
C414	87-010-405-080		CAP, ELECT 10-50V
C416	87-010-545-080		CAP, ELECT 0.22-50V
C417	87-012-157-080		C-CAP,S 330P-50 CH
C418	87-010-213-080		C-CAP,S 0.015-50 B
C419	87-A11-608-080		C-CAP,S 0.33-25 K B
C420	87-016-369-080		C-CAP,S 0.033-25 B K
C421	87-A11-177-080		C-CAP,S 0.15-16 K B
C422	87-010-184-080		CHIP CAPACITOR 3300P(K)
C423	87-010-992-080		C-CAP,S 0.047-25 B
C424	87-016-460-080		C-CAP,S 0.22-16 B
C425	87-010-176-080		C-CAP,S 680P-50 SL
C426	87-A11-608-080		C-CAP,S 0.33-25 K B
C428	87-010-197-080		CAP, CHIP 0.01 DM
C429	87-010-186-080		CAP,CHIP 4700P
C430	87-012-156-080		C-CAP,S 220P-50 CH
C431	87-010-545-080		CAP, ELECT 0.22-50V
C432	87-010-374-080		CAP, ELECT 47-10V
C433	87-010-401-080		CAP, ELECT 1-50V
C434	87-010-184-080		CHIP CAPACITOR 3300P(K)
C435	87-018-134-080		CAPACITOR,TC-U 0.01-16
C436	87-010-374-080		CAP, ELECT 47-10V
C437	87-010-404-080		CAP, ELECT 4.7-50V
C438	87-012-368-080		C-CAP,S 0.1-50 F
C439	87-010-178-080		CHIP CAP 1000P
C440	87-010-145-080		C-CAP,S 1P-50 CH
C441	87-010-197-080		CAP, CHIP 0.01 DM
C442	87-010-313-080		CAP, CHIP 18P
C445	87-012-368-080		C-CAP,S 0.1-50 F
C446	87-012-368-080		C-CAP,S 0.1-50 F

ELECTRICAL MAIN PARTS LIST-3/4

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C447	87-012-368-080		C-CAP,S 0.1-50 F
C448	87-010-315-080		C-CAP,S 27P-50 CH
C450	87-010-305-080		C-CAP 470P-50CH
C451	87-012-156-080		C-CAP,S 220P-50 CH
C455	87-010-247-080		CAP, ELECT 100-50V
C457	87-010-312-080		C-CAP,S 15P-50 CH
C458	87-010-312-080		C-CAP,S 15P-50 CH
C459	87-010-263-080		CAP, ELECT 100-10V
C460	87-015-819-080		CAPACITOR,0.01
C461	87-010-197-080		CAP, CHIP 0.01 DM
C462	87-010-248-080		CAP, ELECT 220-10V
C463	87-018-134-080		CAPACITOR,TC-U 0.01-16
C465	87-010-404-080		CAP, ELECT 4.7-50V
C466	87-012-368-080		C-CAP,S 0.1-50 F
C467	87-010-263-080		CAP, ELECT 100-10V
C469	87-012-154-080		C-CAP,S 150P-50 CH
C470	87-010-544-080		CAP, ELECT 0.1-50V
C471	87-010-858-080		C-CAP,0.1-250 K
C472	87-010-858-080		C-CAP,0.1-250 K
C473	87-010-858-080		C-CAP,0.1-250 K
C474	87-010-858-080		C-CAP,0.1-250 K
C475	87-010-197-080		CAP, CHIP 0.01 DM
C476	87-010-236-080		CAP,E 1000-10 SME
C477	87-010-197-080		CAP, CHIP 0.01 DM
C478	87-010-263-080		CAP, ELECT 100-10V
C479	87-010-197-080		CAP, CHIP 0.01 DM
C480	87-010-221-080		CAP, ELECT 470-10V
C481	87-010-405-080		CAP, ELECT 10-50V
C482	87-010-405-080		CAP, ELECT 10-50V
C483	87-012-156-080		C-CAP,S 220P-50 CH
C484	87-012-156-080		C-CAP,S 220P-50 CH
C489	87-012-368-080		C-CAP,S 0.1-50 F
C490	87-012-368-080		C-CAP,S 0.1-50 F
C491	87-010-197-080		CAP, CHIP 0.01 DM
C492	87-010-221-080		CAP, ELECT 470-10V
C493	87-010-197-080		CAP, CHIP 0.01 DM
C494	87-018-134-080		CAPACITOR,TC-U 0.01-16
C4001	87-012-368-080		C-CAP,S 0.1-50 F
C4002	87-010-297-080		CAP CHIO 100P
C4003	87-010-297-080		CAP CHIO 100P
C4004	87-010-297-080		CAP CHIO 100P
C4005	87-010-297-080		CAP CHIO 100P
C4006	87-010-297-080		CAP CHIO 100P
C4007	87-010-178-080		CHIP CAP 1000P
C4011	87-010-178-080		CHIP CAP 1000P
C4012	87-010-178-080		CHIP CAP 1000P
C4013	87-010-178-080		CHIP CAP 1000P
CN401	87-A60-424-010		CONN,16P V TOC-B
CNA402	8Z-CT6-631-010		CONN ASSY,6P CD MO
FFC401	88-CT6-606-010		FFC WIRE 16P(1.0)
L401	87-003-102-080		COIL, 10UH
L404	87-003-152-080		COIL, 100UH
SFR430	87-024-437-080		SFR100K,RH063EC
X401	8Z-CD5-633-010		VIB, CER16.93MHZ FCR16.93M2

FRONT C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C600	87-010-263-080		CAP, ELECT 100-10V
C601	87-010-313-080		CAP, CHIP 18P
C602	87-010-315-080		C-CAP,S 27P-50 CH
C603	87-010-317-080		C-CAP,S 39P-50 CH
C604	87-010-314-080		C-CAP,S 22P-50V
C605	87-010-316-080		C-CAP,S 33P-50 CH
C606	87-012-350-080		C-CAP,1-25 F
C607	87-010-197-080		CAP, CHIP 0.01 DM
C608	87-016-669-080		C-CAP,S 0.1-25 K B
C609	87-010-196-080		CHIP CAPACITOR,0.1-25
C610	87-010-263-080		CAP, ELECT 100-10V
C611	87-010-196-080		CHIP CAPACITOR,0.1-25
C612	87-010-221-080		CAP, ELECT 470-10V
C613	87-010-402-080		CAP, ELECT 2.2-50V
C614	87-010-196-080		CHIP CAPACITOR,0.1-25
C615	87-010-400-080		CAP, ELECT 0.47-50V
C616	87-010-400-080		CAP, ELECT 0.47-50V
C617	87-010-179-080		CAP,CHIP S B1200P
C618	87-010-263-080		CAP, ELECT 100-10V
C834	87-010-404-080		CAP, ELECT 4.7-50V
C836	87-010-178-080		CHIP CAP 1000P
C837	87-010-178-080		CHIP CAP 1000P
C838	87-010-401-080		CAP, ELECT 1-50V
C839	87-010-401-080		CAP, ELECT 1-50V
C840	87-010-221-080		CAP, ELECT 470-10V
C841	87-010-401-080		CAP, ELECT 1-50V
C844	87-010-401-080		CAP, ELECT 1-50V
C6004	87-010-198-080		CAP, CHIP 0.022
C6008	87-010-198-080		CAP, CHIP 0.022
C6009	87-010-198-080		CAP, CHIP 0.022
C6011	87-010-198-080		CAP, CHIP 0.022
CN205	8Z-CT9-641-010		CONN ASSY,2P PH(CD DOOR)
CN601	87-A60-109-010		CONN,2P V S2M-2W
L601	87-003-149-080		COIL,47UH
L603	87-008-372-010		FILTER, EMI BL OIRNI
L605	87-008-372-010		FILTER, EMI BL OIRNI
L801	87-008-372-010		FILTER, EMI BL OIRNI<USC>
LCD601	8B-CT5-601-010		LCD,AIW4239-32PIN
LED606	87-A41-050-040		LED,BT-H203D-31 RED
LED607	87-A41-050-040		LED,BT-H203D-31 RED
LED608	87-A41-050-040		LED,BT-H203D-31 RED
LED609	87-A41-050-040		LED,BT-H203D-31 RED
LED610	87-A41-050-040		LED,BT-H203D-31 RED
S602	8Z-CT6-636-010		SW,TACT EVQJAC04M
S603	8Z-CT6-636-010		SW,TACT EVQJAC04M
S604	8Z-CT6-636-010		SW,TACT EVQJAC04M
S605	8Z-CT6-636-010		SW,TACT EVQJAC04M
S606	8Z-CT6-636-010		SW,TACT EVQJAC04M
S607	8Z-CT6-636-010		SW,TACT EVQJAC04M
S608	8Z-CT6-636-010		SW,TACT EVQJAC04M
S612	8Z-CT6-636-010		SW,TACT EVQJAC04M
S613	8Z-CT6-636-010		SW,TACT EVQJAC04M
S614	8Z-CT6-636-010		SW,TACT EVQJAC04M
S615	8Z-CT6-636-010		SW,TACT EVQJAC04M
S616	8Z-CT6-636-010		SW,TACT EVQJAC04M
S617	8Z-CT6-636-010		SW,TACT EVQJAC04M
S618	8Z-CT6-636-010		SW,TACT EVQJAC04M
S619	8Z-CT6-636-010		SW,TACT EVQJAC04M
X601	87-030-273-010		VIB,XTAL 32.768K5PPM
X602	87-A70-070-080		VIB,CER 5.76MHZ CRHF

JACK C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C830	87-010-197-080		CAP, CHIP 0.01 DM
C831	87-010-197-080		CAP, CHIP 0.01 DM
C832	87-010-181-080		CAP,CHIP S 1800P
C833	87-010-178-080		CHIP CAP 1000P
C835	87-010-544-080		CAP, ELECT 0.1-50V
C842	87-012-140-080		CAP 470P
J251	87-009-216-010		JACK, DIA 3.5
J801	87-009-216-010		JACK, DIA 3.5
VR801	87-A90-768-010		VR,RTRY 10KA H PRV09

POWER C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C901	87-A10-577-080		CAP,CER 0.022-50 Z YF
C902	87-A10-577-080		CAP,CER 0.022-50 Z YF
C903	87-A10-577-080		CAP,CER 0.022-50 Z YF
C904	87-A10-577-080		CAP,CER 0.022-50 Z YF
CNA901	8Z-CT9-640-010		CONN ASSY,3P EH(POWER)
⚠PR901	87-A90-473-080		PROTECTOR,3.5A 491SERIES 60V
⚠SW901	87-A91-369-010		SW,AC SL 2 2 2 SDKGA41700<LHSC>

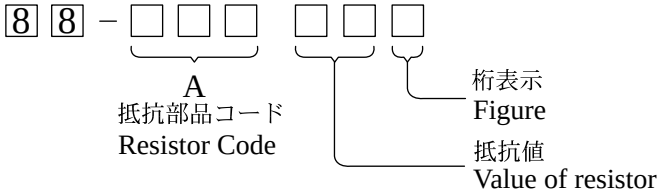
ELECTRICAL MAIN PARTS LIST-4/4

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
MOTOR C.B			
M2	**S0-M10-A09-700**		**MOTOR SLED ASSY**
PIN3	**S2-369-750-000**		**PLUG,6P**
SW1	**S4-S13-A01-600**		**SW,LEAF**

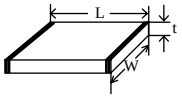
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



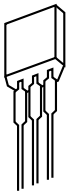
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード ：A Resistor Code：A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

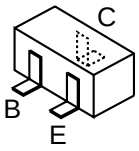
TRANSISTOR ILLUSTRATION-1/1

2SA1296

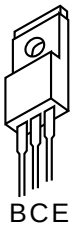
2SC2001
2SA933
2SC1815
KTC3198
2SC2240
2SA1979



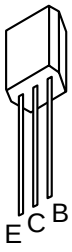
DTC114TS



2SA1162
2SC2712
2SC2714
DTC114TK
DTC114YK
DTC144EK



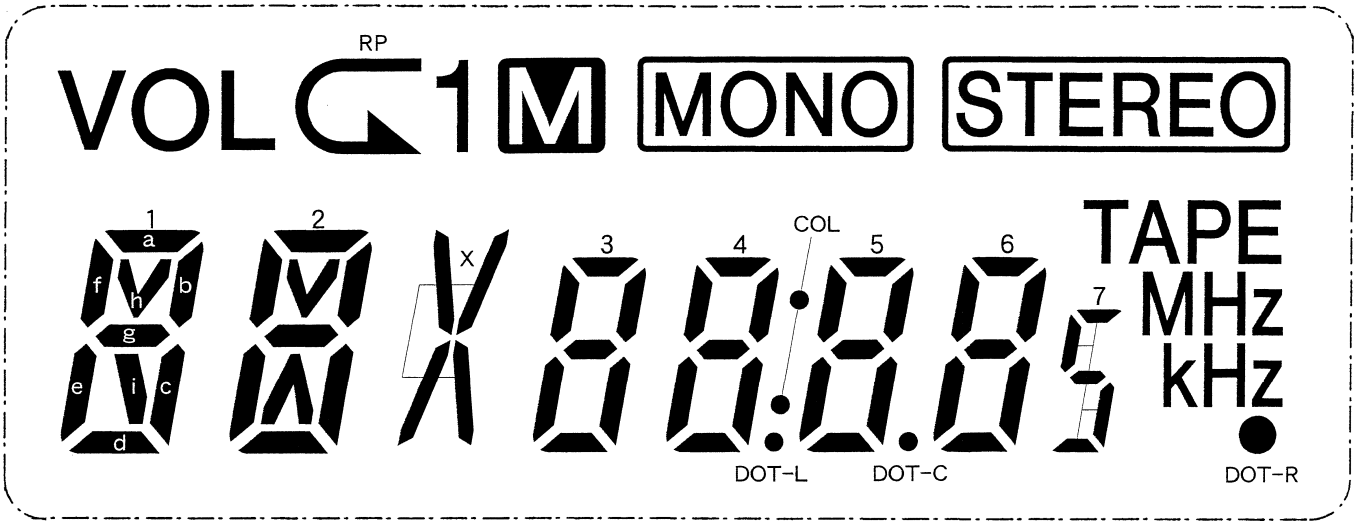
2SB1655



2SC1740
DTC124XS

FL (AIW4239-32PIN) GRID ASSIGNMENT/ANODE CONNECTION-1/1

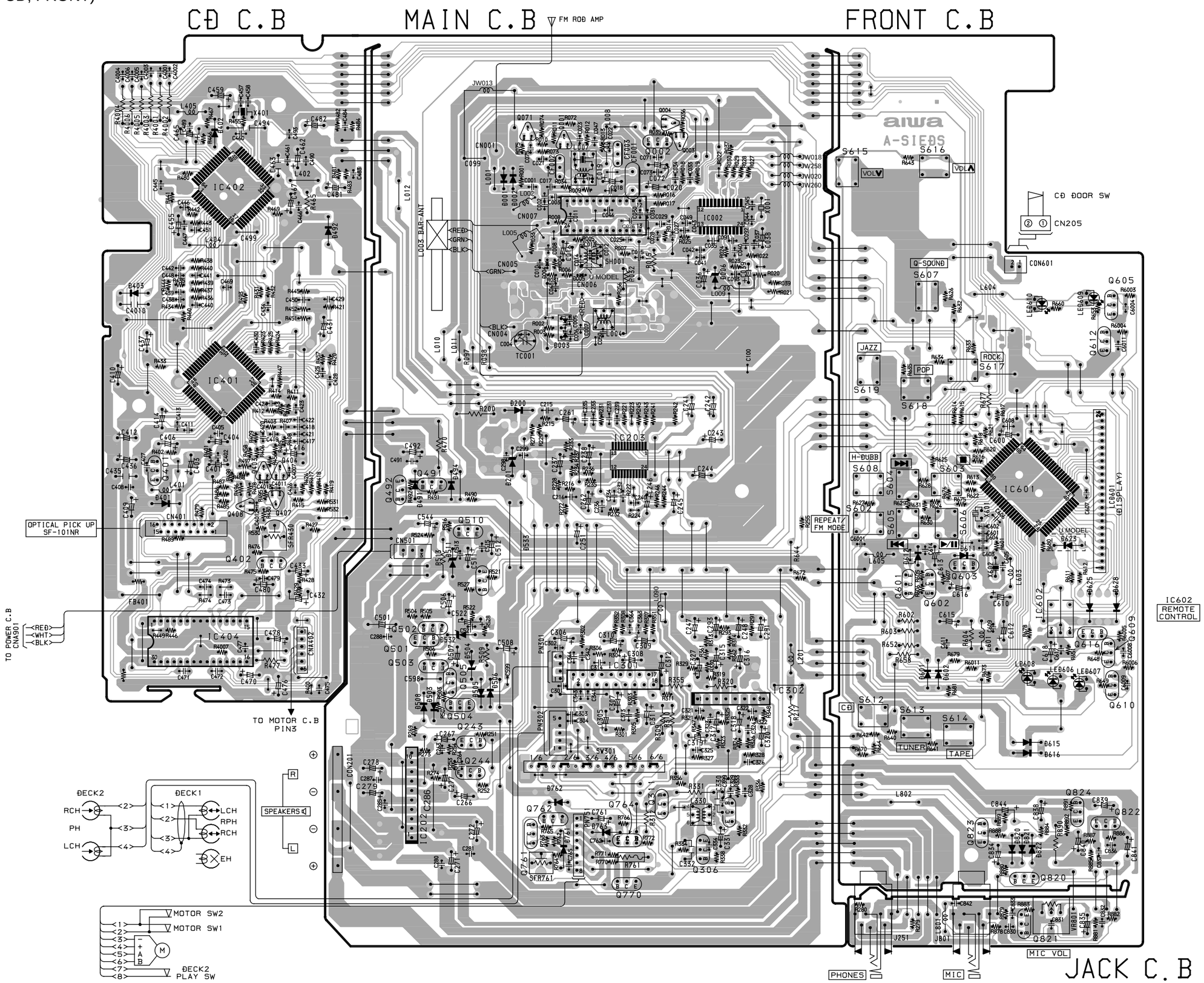
GRID ASSIGNMENT



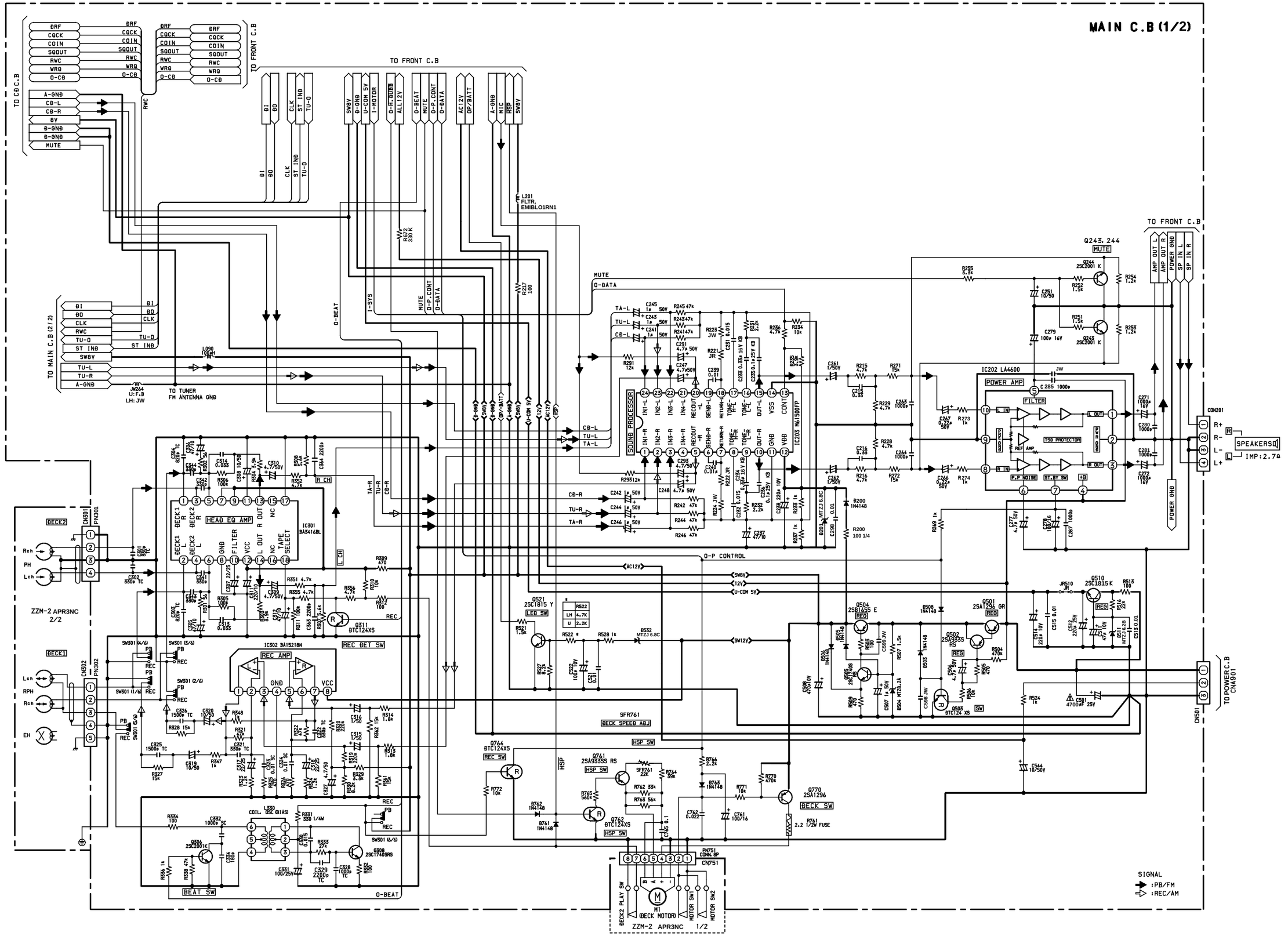
ANODE CONNECTION

NO	COM1	COM2	COM3
1	2b	2c	2d
2	1b	1c	1d
3	1a	1f	1e
4	1h	1g	1i
5	—	—	VOL
6	2a	2f	2e
7	2h	2g	2i
8	3f	3e	RP
9	3a	3g	3d
10	3b	3c	1
11	4f	4e	M
12	4a	4g	4d
13	4b	4c	X
14	col	DOT-L	MONO
15	5f	5e	DOT-R
16	5a	5g	5d
17	5b	5c	DOT-C
18	6f	6e	STEREO
19	6a	6g	6d
20	6b	6c	7
21	TAPE	MHz	KHz
22	COM1	—	—
23	—	COM2	—
24	—	—	COM3

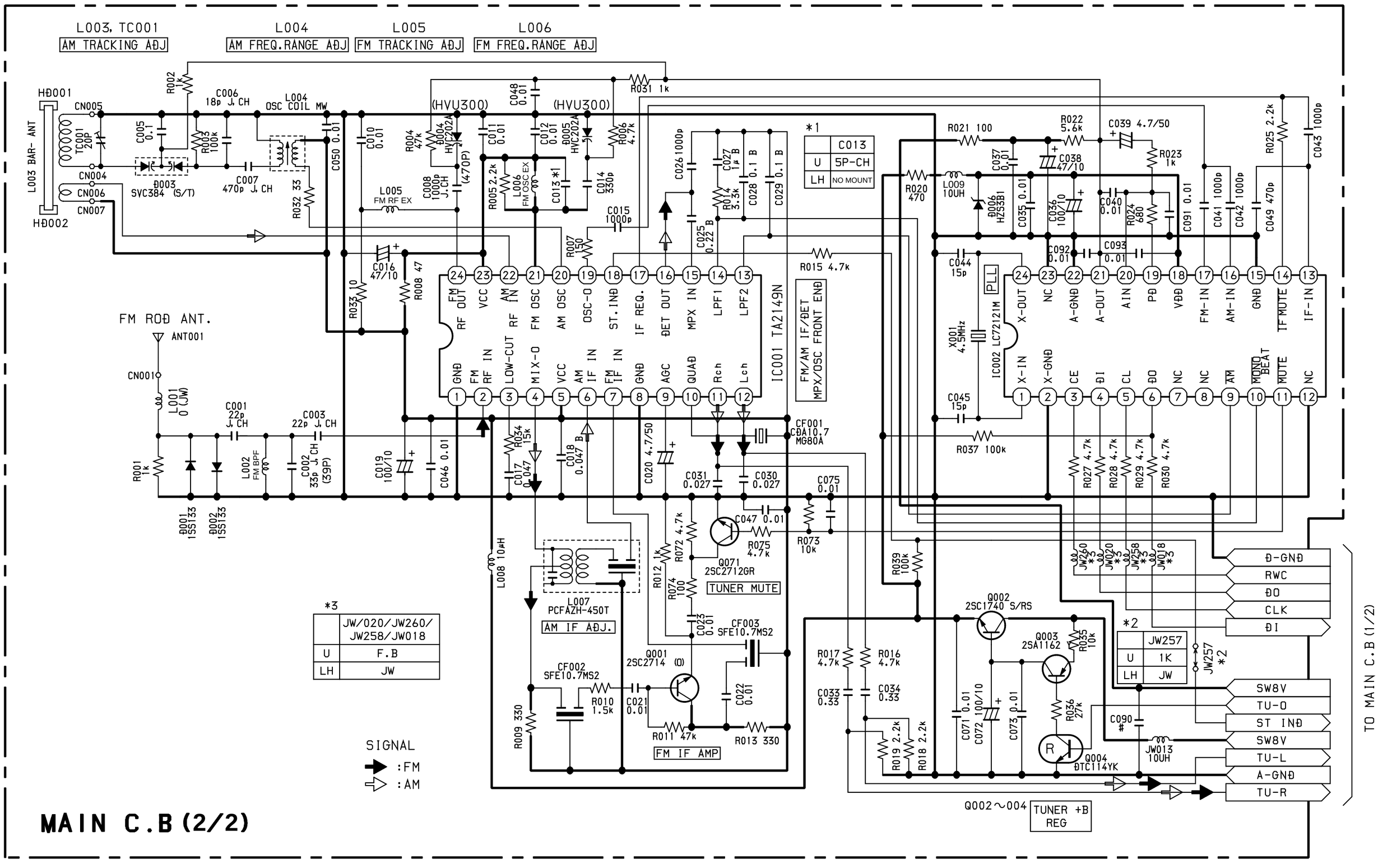
WIRING-1/2 (MAIN, CD, FRONT)



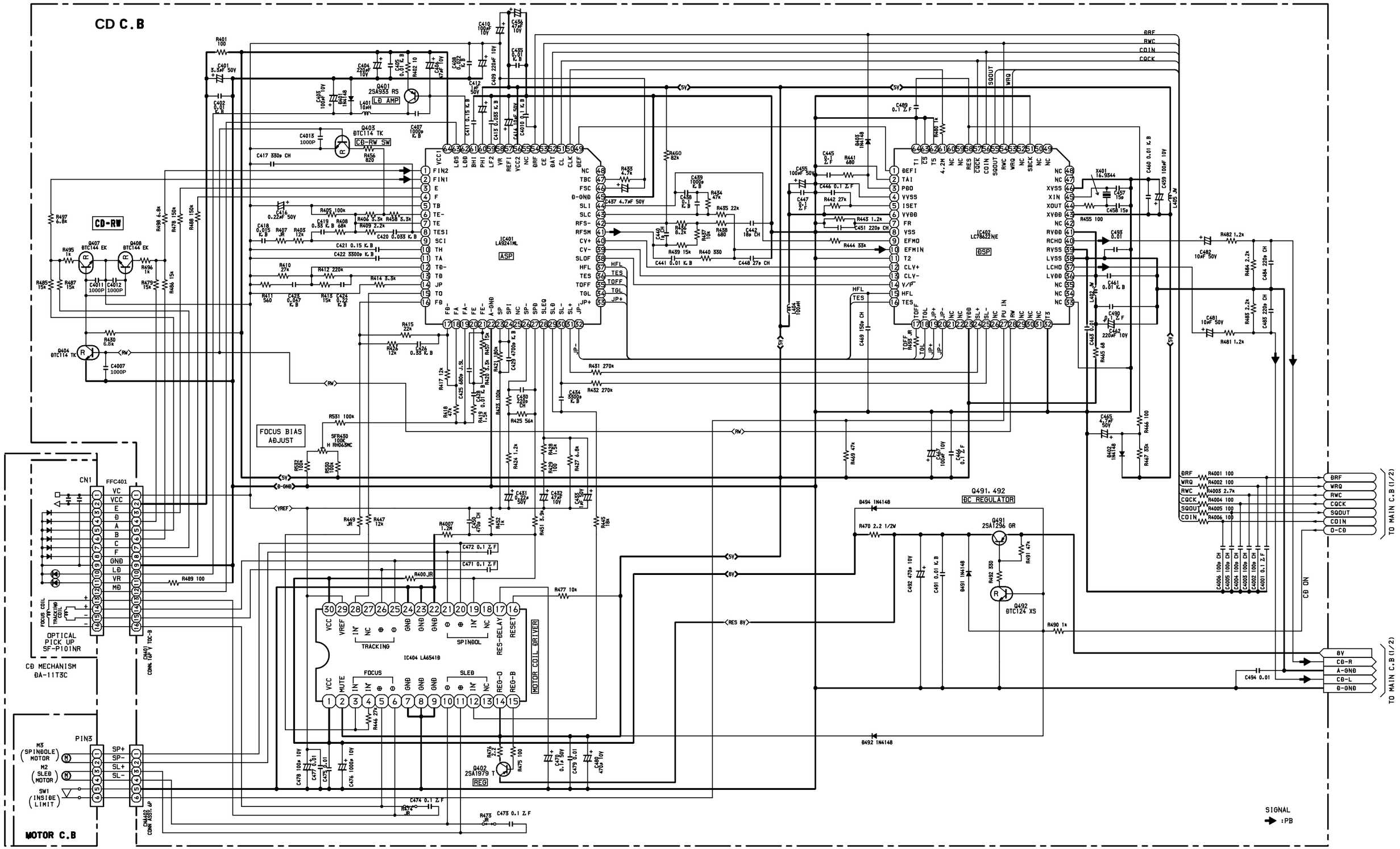
SCHEMATIC DIAGRAM-1/5 (MAIN 1/2)



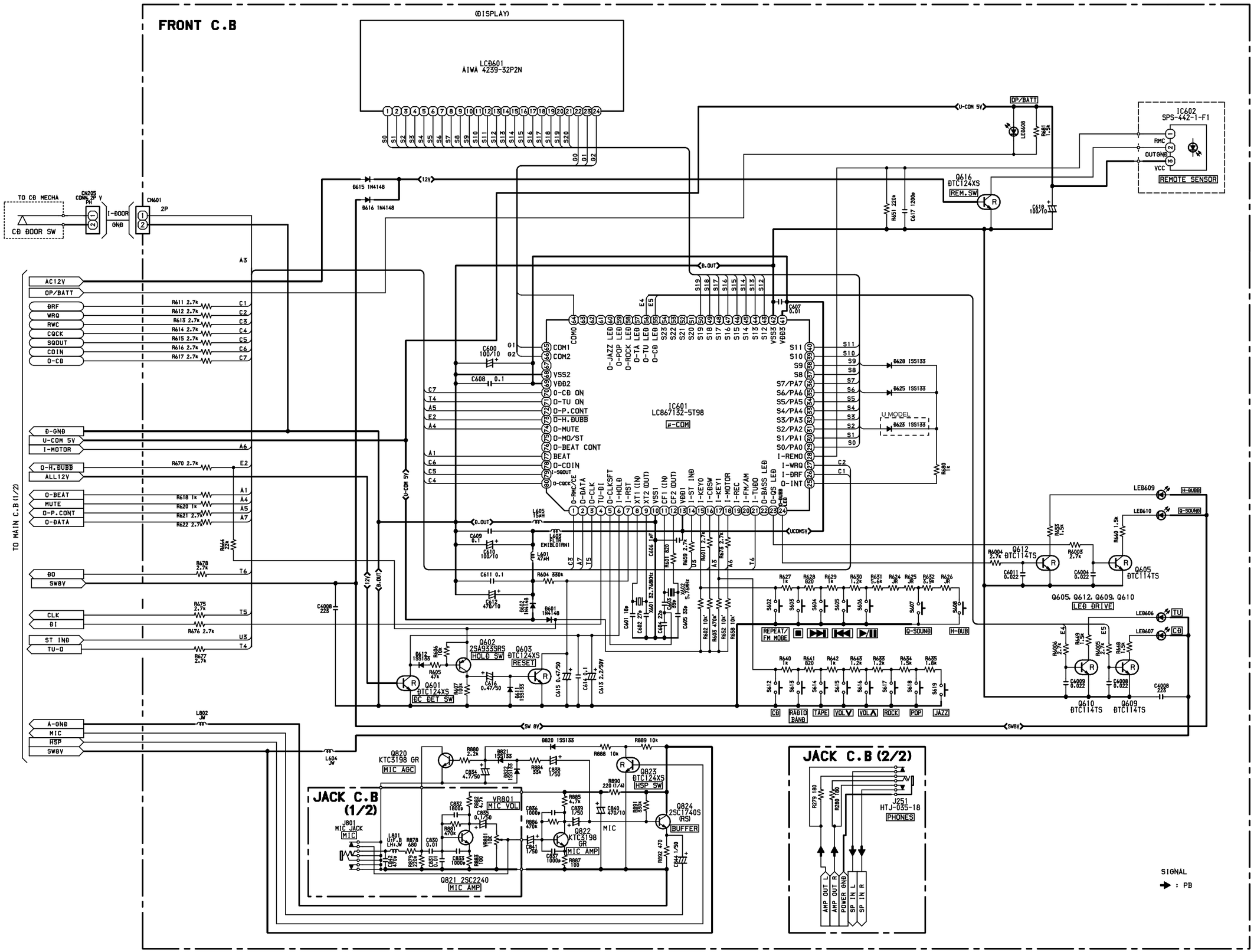
SCHEMATIC DIAGRAM-2/5 (MAIN 2/2)



SCHEMATIC DIAGRAM-3/5 (CD)



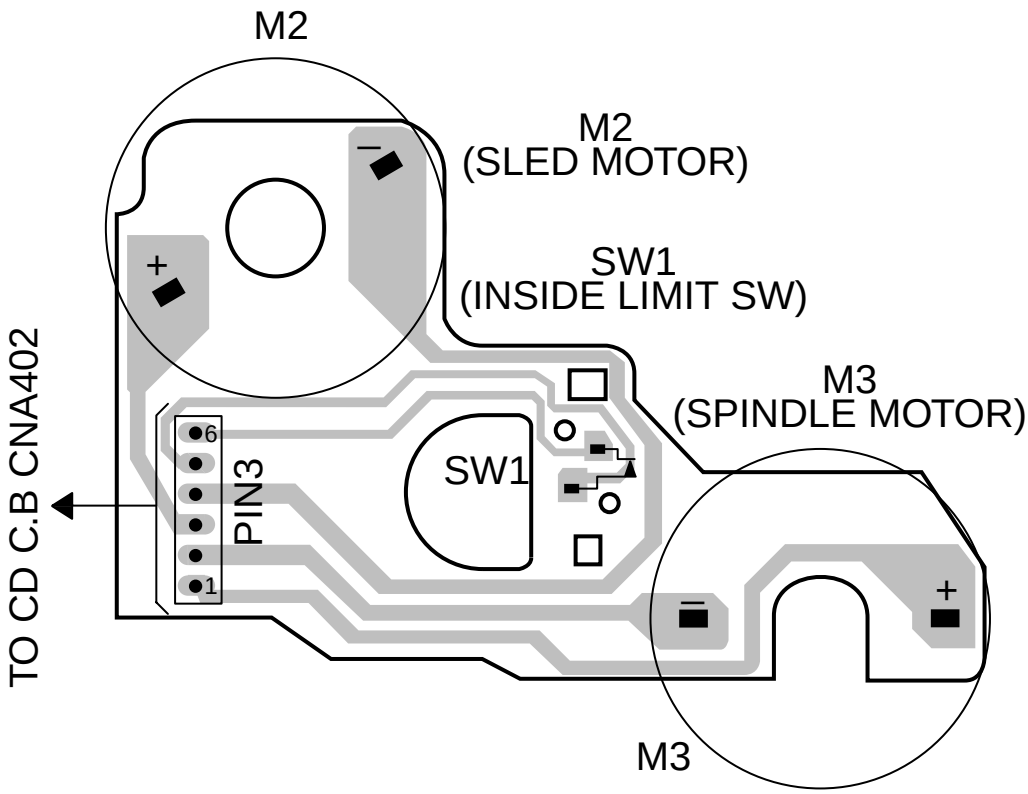
SCHEMATIC DIAGRAM-4/5 (FRONT)



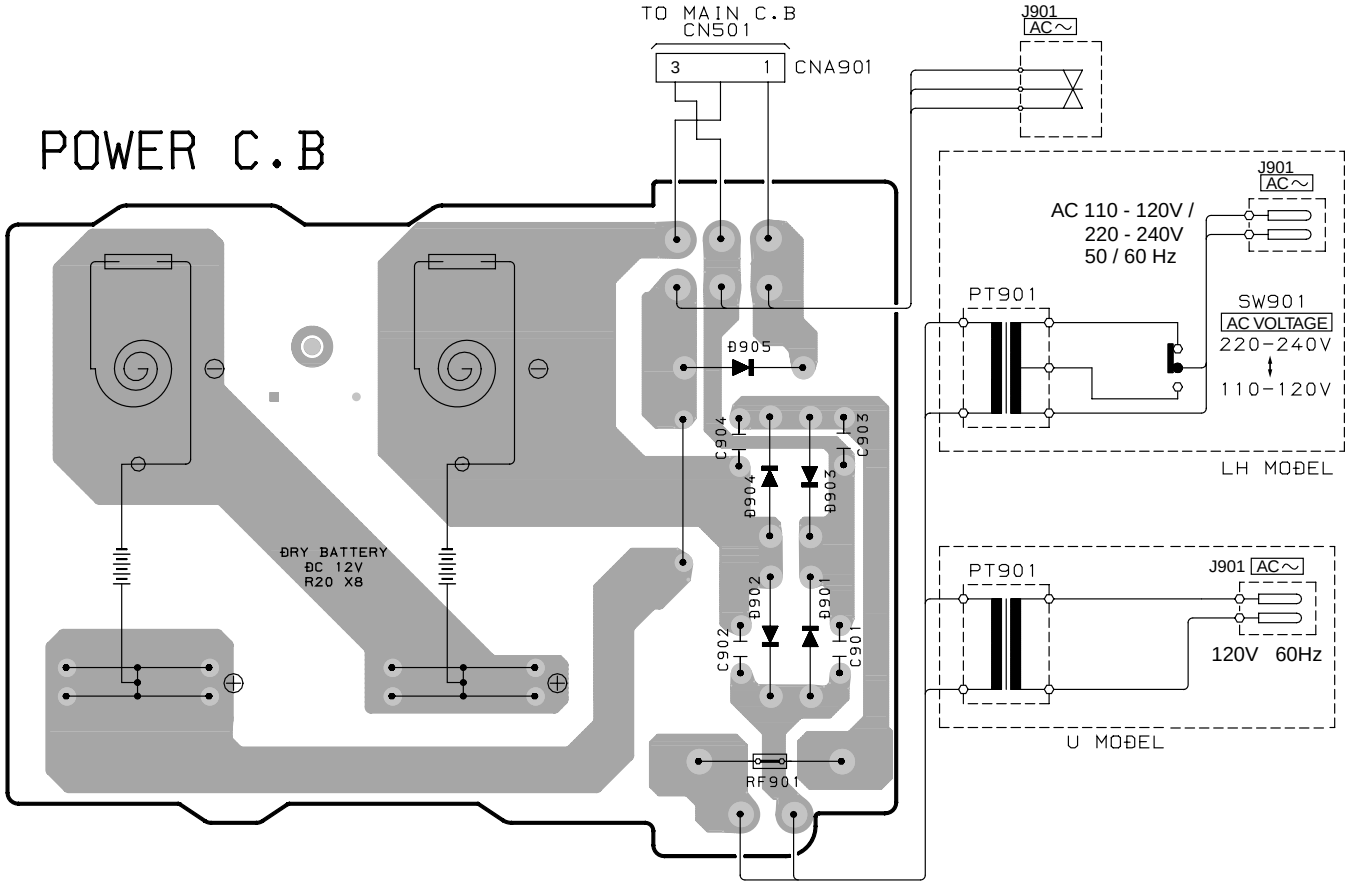
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

A B C D E F G H I J K L M N O P Q R S T U

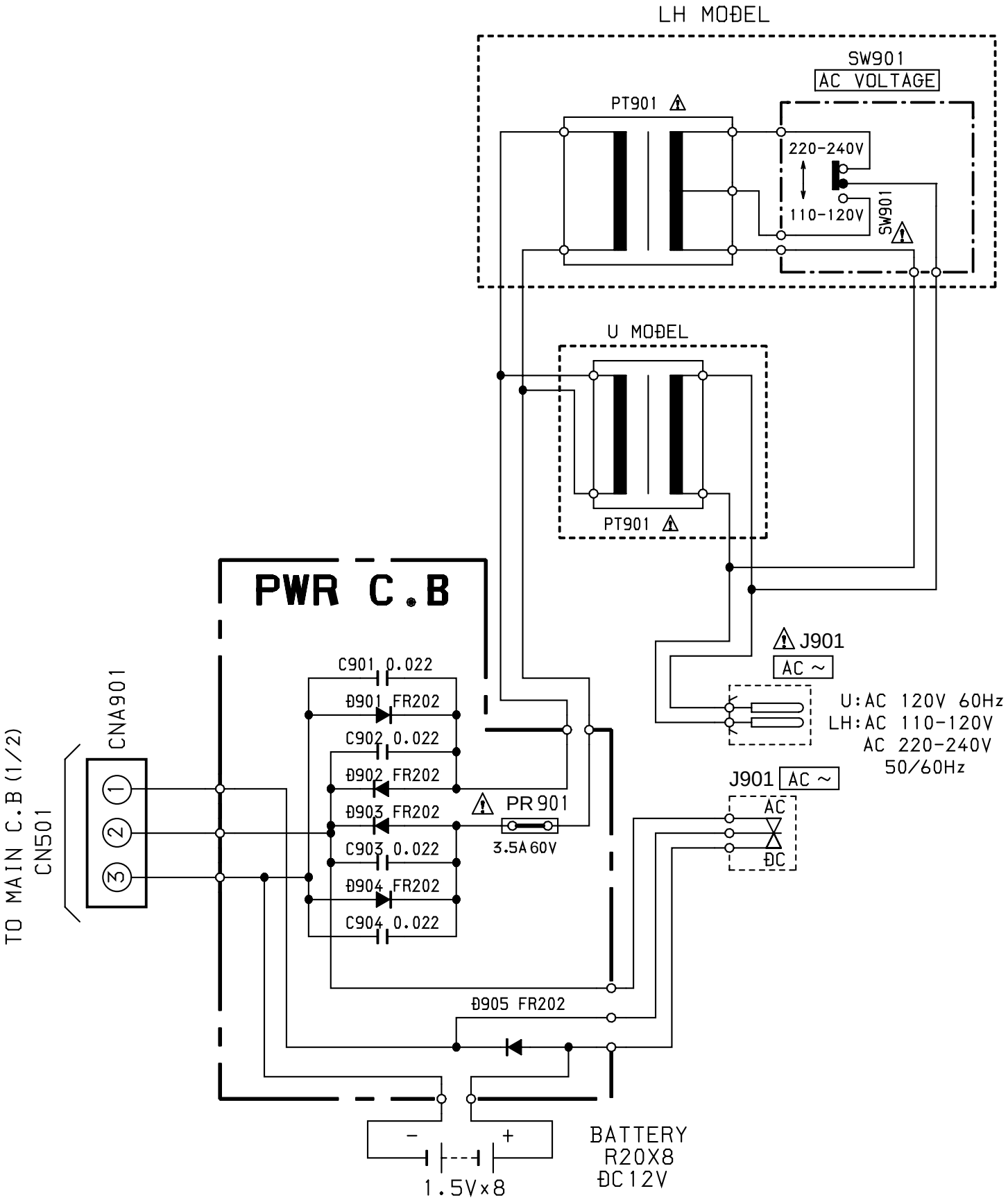
MOTOR C.B

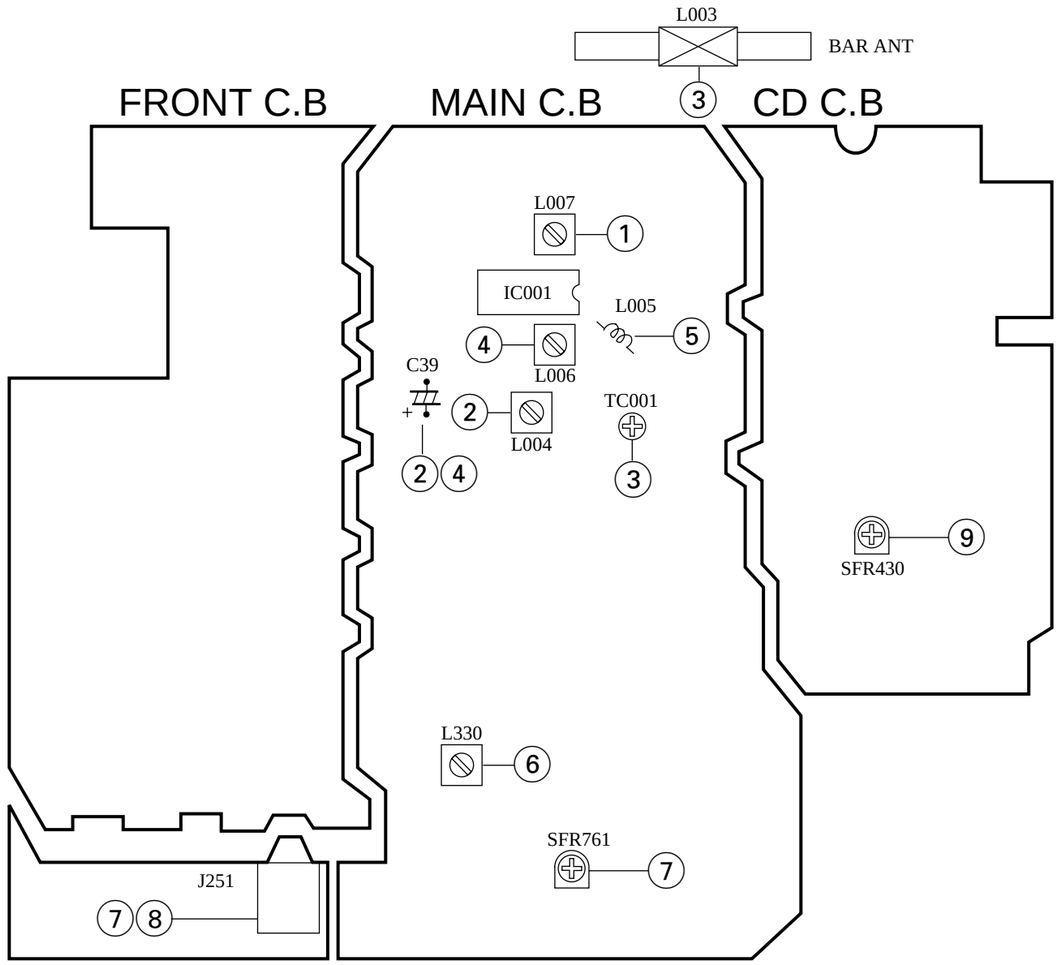


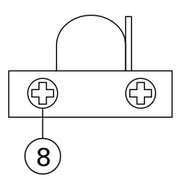
POWER C.B



SCHEMATIC DIAGRAM-5/5 (POWER)







< TUNER SECTION >

1. AM IF Adjustment
   L007 ..... 530kHz

2. AM VT Adjustment
   Settings: • Test point: C39⊕
   • Adjustment location: L004
   Method: Set to AM 1710kHz adjust L004 so that the test point becomes 5.5V±0.05V

3. AM Tracking Adjustment
   L003 ..... 600kHz
   TC001 ..... 1400kHz

4. FM VT Adjustment
   Settings: • Test point: C39⊕
   • Adjustment location: L006
   Method: Set to FM 108MHz adjust L006 so that the test point becomes 6.0V±0.05V

5. FM Tracking Adjustment
   L005 ..... 98MHz

< TAPE SECTION >

6. Bias frequency Adjustment
   L330 ..... 56kHz ±2kHz

7. Tape speed Adjustment
   Settings: • Test tape: MT111
   • Test point: PHONES JACK (J251)
   • Adjustment location: SFR761
   Method: Play back the test tape and adjust so that the output frequency is 3000Hz ±30Hz.

8. Azimuth Adjustment
   Settings: • Test tape: TTA-320
   • Test point: PHONES JACK (J251)
   • Adjustment location: Azimuth adjustment screw
   Method: Play back the 8kHz signal of the test tape and adjust screw so that the output becomes maximum.

< CD SECTION >

9. Focus Bias Adjustment
   Settings: • Test CD: TCD-782 (A-BEX)
   • Test point: IC401 PIN20, PIN58
   • Adjustment location: SFR430
   Method: Play back the #15 of the test CD and adjust SFR430 so that the voltage between pin20 and pin 58 of IC401 becomes 0V ±0.1mV.

1.MICOM BLOCK

IC601(LC867132V_***UNIT : (V) VOLT

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
VOLT	0	0	0	0	0	0	3.5	0.16	2.2	0	1.3	4.7	4.7	4.3	4.8	3.3	4.8	4.8	0	0	4.3	4.6	0	0	4.7	0	0	4.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
PIN NO	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**
VOLT	4.7	0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	0	0	0	4.6	0	0	0	0	0	0	0	0	2.3	2.3	0	0	4.7	0	4.7	4.6	4.6	0	0	0	0	0	0	0

CONDITIONS:TUNER----------UNIT ; (V) VOLT

IC602	
1(B+)	4.3
2	0
3	5.3

LOC NO.	Q601	Q602	Q603	Q605	Q609	Q610	Q612	Q616
E	0	4.8	0	0	0	0	0	0
C	0	4.7	3.5	6.5	0	6.5	6.5	0
B	1.3	4.2	0	0	3.7	0	0	12.0

CONDITIONS : MIC REC-------UNIT ; (V) VOLT

LOC NO	Q820	Q821	Q822	Q823	Q824
E	0	0.1	0.1	0	1.6
C	0	2.4	2.4	0	7.3
B	0	0.7	0.7	3.4	2.0

2.CD BLOCK-----UNIT ; (V) VOLT

IC401(LA9241ML)

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
VOLT	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55	0	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.0	2.0	0
PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
VOLT	0	4.4	4.4	0	0	4.4	0	0	1.4	2.5	2.5	2.5	0	2.5	2.5	0	0	2.5	3.9	3.9	0	0	1.0	4.4	2.5	2.5	0.8	0.8	2.0	4.4	0	5.0

IC402(LC78622ED)

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
VOLT	0	0	0	0	1.6	4.5	0	0	2.5	2.5	0	0	0	4.4	0	0	4.5	4.5	0	0	2.5	0	4.5	0	0	0	0	0	4.3	0	2.5	0
PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
VOLT	0	0	4.3	5.0	2.5	0	0	2.5	5.0	0	4.3	1.9	1.9	0	0	0.9	0	2.5	0	2.5	0	0	0	3.9	3.9	4.3	0	2.0	2.1	0	0	0

IC404(LA6541D)

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
VOLT	8.0	5.0	2.6	2.5	3.5	3.5	0	0	0	3.5	3.5	2.5	0	5.0	2.0	5.0	5.0	0	2.5	3.8	3.0	0	0	0	3.4	3.4	0	2.5	2.5	8.0

2-1.CD BLOCK -----UNIT ; (V) VOLT

LOC NO	Q401			Q402			Q403			Q404			Q407			Q408			Q491			Q492		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
VOLT	5.0	1.5	4.35	7.8	5.1	7.09	2.55	2.55	4.85	0	0.07	4.85	2.55	0.01	0.07	2.55	0.01	0.07	8.0	7.8	7.4	0	0.3	4.5

3.TUNER BLOCK-----UNIT ; (v) VOLT

IC001(TA2149N))

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
VOLT	0	0.8	0	4.4	4.7	4.1	4.7	0	0.7	3.6	1.2	1.2	3.4	3.5	0.7	0.7	0.7	0	2.9	4.7	4.5	4.7	4.5	4.7

IC002 (LC72121M)

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
VOLT	1.0	0	0	0	0	4.3	0	0	2.0	3.6	3.5	0	0	6.6	0	0	1.3	2.7	1.0	1.0	2.2	0	0	1.4

TRANSISTOR

LOC NO	Q001			Q002			Q003			Q004			Q071		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
VOLT	2.1	4.0	2.8	4.7	7.8	5.4	5.4	5.4	4.7	0	0.01	3.8	0	0	0.65

4.TAPE BLOCK --------UNIT ; (V) VOLT

IC301(BA3416BL)																		
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLT	0	0	0	0	0.6	0.6	5.5	0	5.5	5.1	0.6	5.5	2.1	2.1	0	0	0	0.1

IC302(BA15218N)								
PIN NO	1	2	3	4	5	6	7	8
VOLT	5.6	5.6	5.5	0	5.5	5.6	5.6	11.5

TRANSISTOR																					
LOC NO	Q306			Q308			Q311			Q761			Q762			Q764			Q770		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
VOLT	0	0	0.7	0.38	0.42	6.54	0	0.08	0	10.96	10.9	10.4	0	0.07	2.4	0	0.73	0	11.4	11.3	10.7

5.POWER AMP,SUPPLY------UNIT ; (V) VOLT

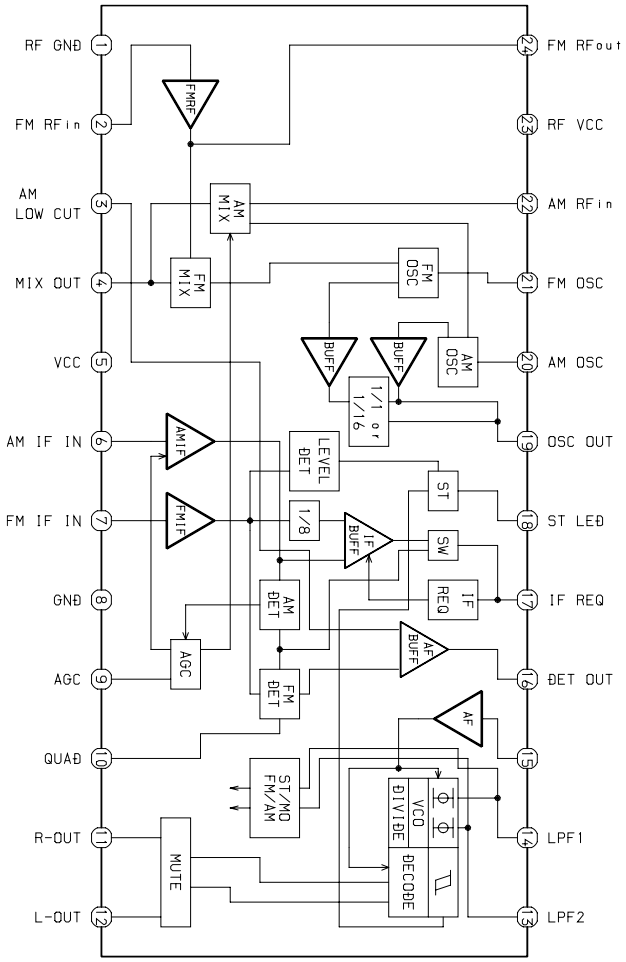
IC203(M61500FP)																								
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
VOLT	2.0	2.0	2.0	0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.5	2.7	0	2.0	2.0	2.0	2.0	2.0	2.0	0	2.0	2.0	2.0

IC202(LA4600)										
PIN NO	1	2	3	4	5	6	7	8	9	10
VOLT	6.0	0	6.0	12.0	4.1	1.7	9.1	1.4	0	1.4

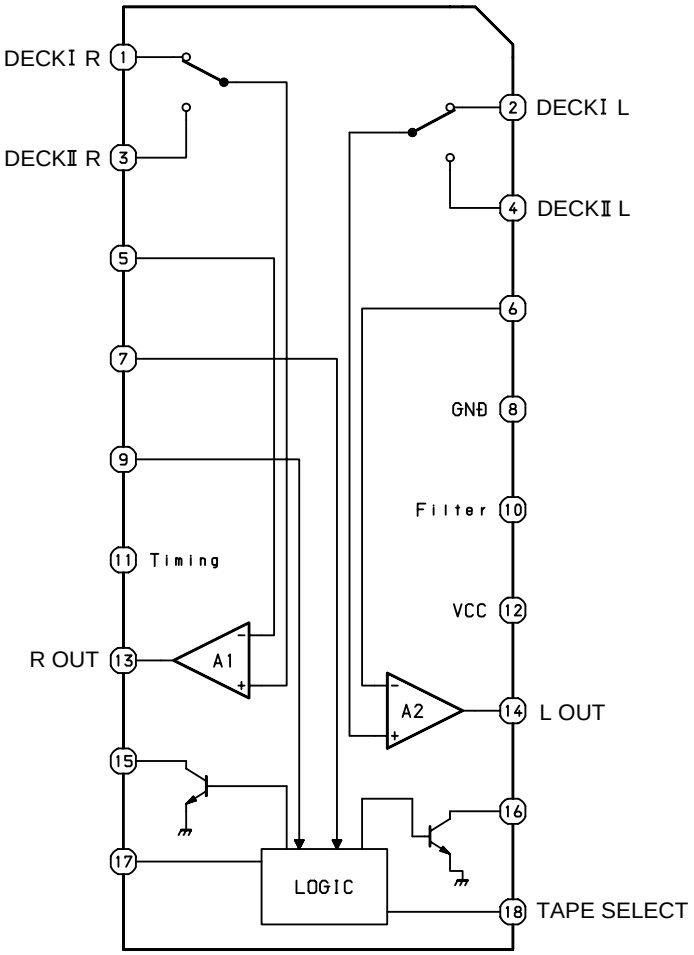
TRANSISTOR									
LOC NO	Q243	Q244	Q501	Q502	Q503	Q504	Q505	Q510	Q521
E	0	0	12.0	11.5	0	11.5	7.1	5.28	0
C	0	0	11.5	11.5	0.03	8.0	10.8	9.6	0.04
B	0.15	0.15	11.5	10.5	3.0	11.0	7.7	6.0	0.7

IC BLOCK DIAGRAM-1/2

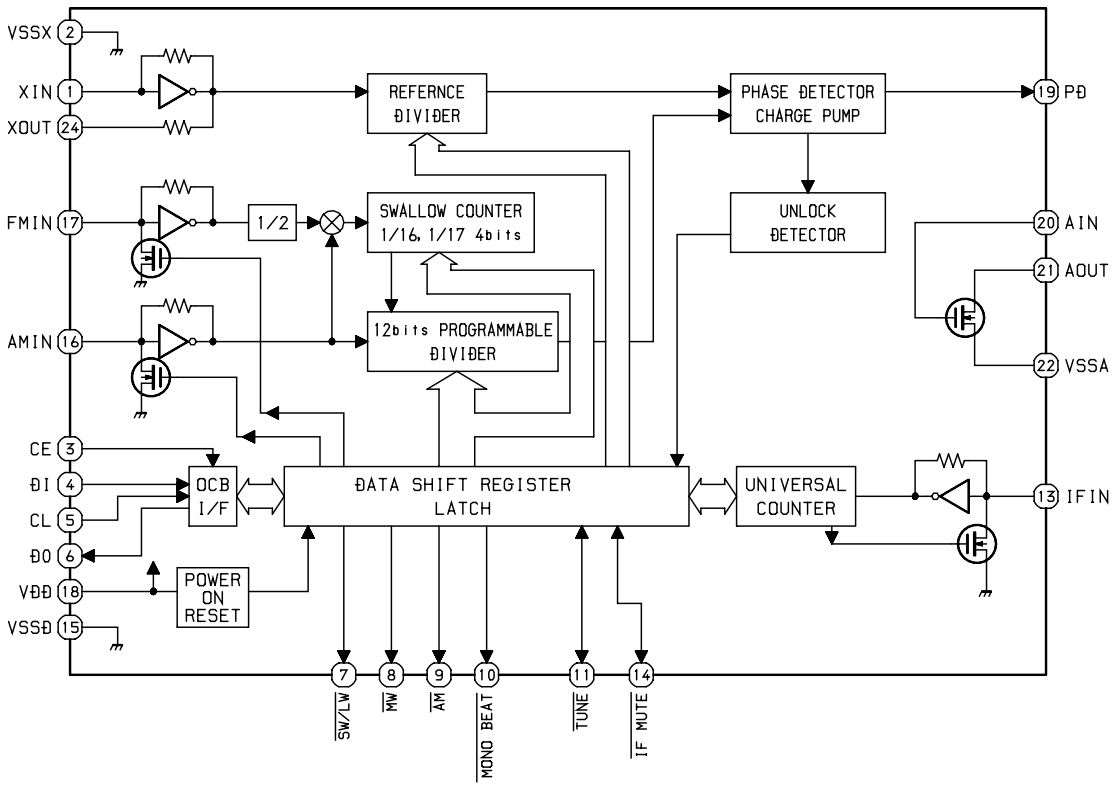
IC, TA2149N



IC, BA3416BL

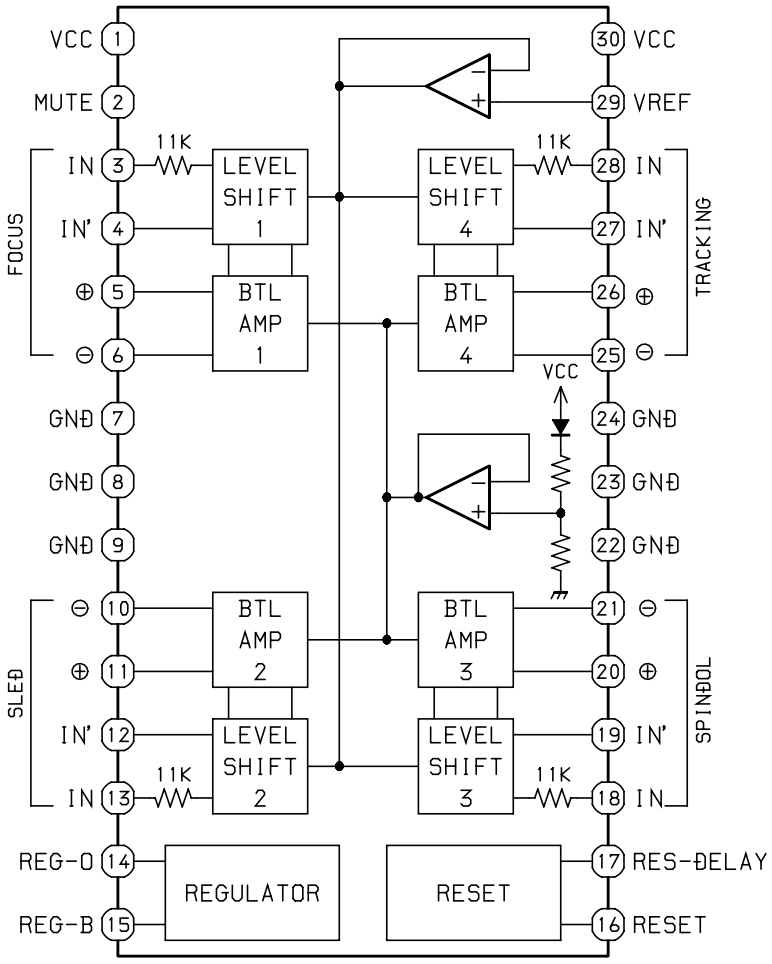


IC, LC72121M

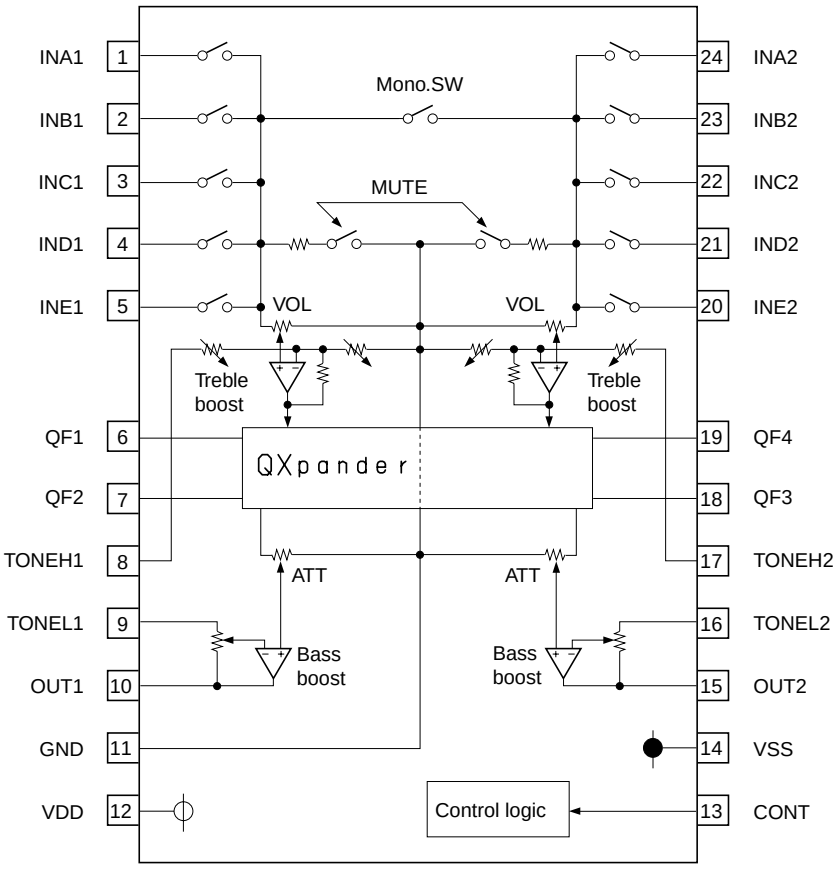


IC BLOCK DIAGRAM-2/2

IC, LA6541D



IC, M61500



Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE-	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES “Track Error Sense” comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD-	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD-	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD- and FA- pins.
19	FA-	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE-	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	SP	O	Signal ended output of the CV+and CV- pin input signal.
24	SPI	I	Spndle amp input.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected. (Not connected)
26	SP-	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL-, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP-, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	“High Frequency Level” is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV-, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS-	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	“Slice Level Control” is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	“Tracking Balance Control” EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	“Detect RF” RF level detector output.
55	FSS	I	“Focus Search Select” focus search mode (± search/+ search) select pin. (Not connected)
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected. (Pull down)
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin. (Pull down)
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected. (Pull up)
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected. (Pull down)
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PD0 output current. (Pull down)
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment. (Pull down)
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLV-	O	Disc motor control output. Three level output is possible using command.	
14	V/$\overline{P}$	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP-	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in. (Not connected)	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree. (Not connected)	
23	VDD	—	Digital system power supply pin.	
24	SL+	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open. (26: Not connected)
25	SL-	I/O		
26	PUSW	I/O		
27	PU IN	I/O		
28	RW	I/O		
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H. (Not connected)	
30	C2F	O	C2 flag output pin. (Not connected)	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format) (Not connected)	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin. (Not connected)
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin. (Not connected)

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin. (Not connected)
48	EFLG	O	C1, C2, single and dual correction monitoring pin. (Not connected)
49	PW	O	Subcode P, Q, R, S, T, U and W output pin. (Not connected)
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby. (Not connected)
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator. (Not connected)
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	RES	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output). (Not connected)
60	16M	O	16.9344 MHz output pin. (Not connected)
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

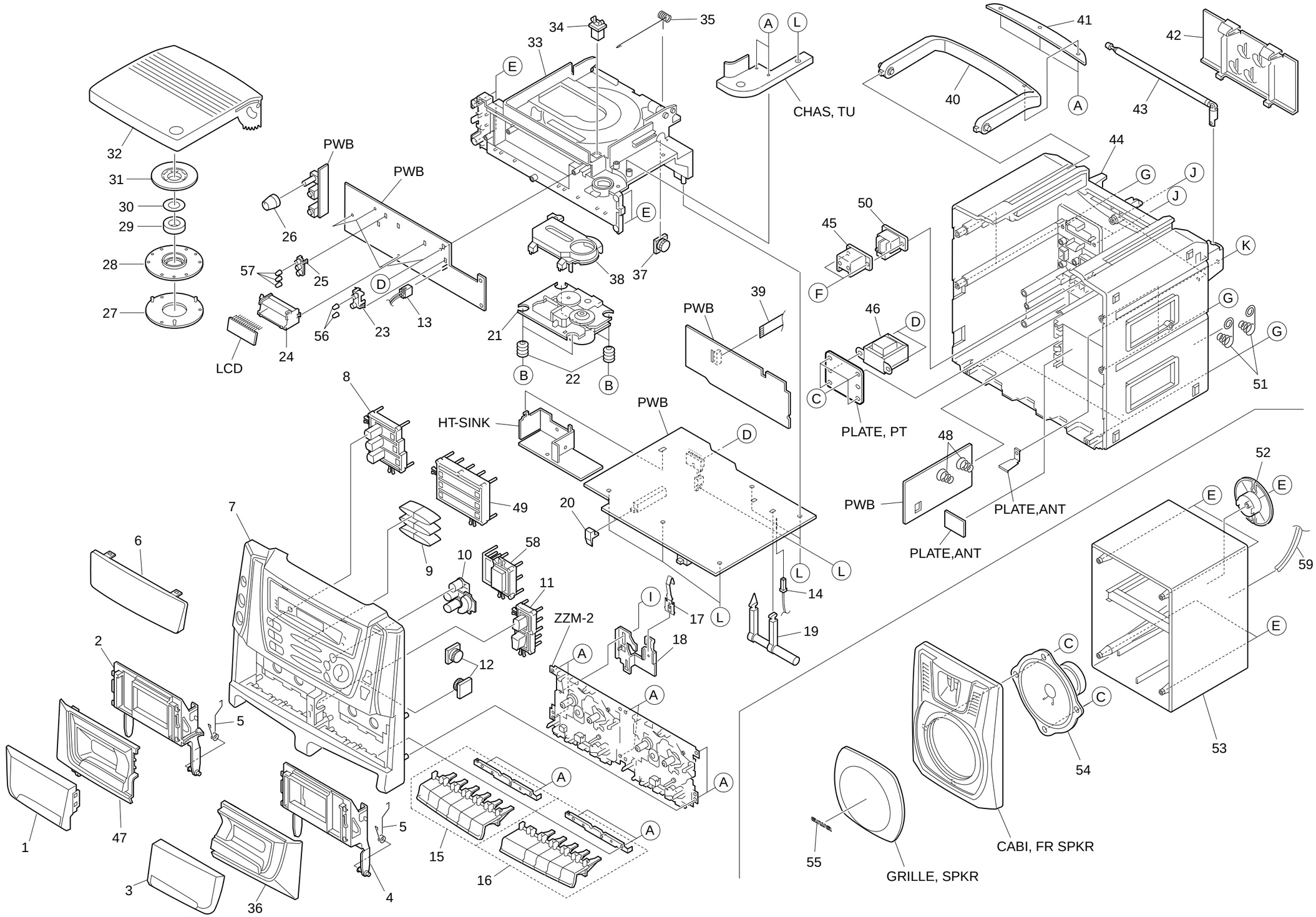
Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

IC DESCRIPTION-3/3 (LC867132V-5T98)-1/2

Pin No.	Pin Name	I/O	Description
1	O-RMC/CE	O	CD read/write control output and TU CE.
2	O-DATA	O	Data output to M62495FP.
3	O-CLK	O	Output CLK to tuner PLL.
4	TU-DI	—	Data output to LC72121M.
5	O-CLKSFT	O	Clock shift output of the microcomputer.
6	I-HOLD	I	Hold status detection.
7	I-RST	I	Microcomputer reset.
8	XT1 (IN)	I	Connected to 32.768KHZ crystal oscillator.
9	XT2 (OUT)	O	
10	VSS1	—	GND.
11	CF1 (IN)	I	Connected to 6MHZ Ceramic Filter.
12	CF2 (OUT)	O	
13	VDD1	—	Power supply for microcomputer (+5V).
14	I-ST IND	I	FM STEREO status input.
15	I-KEYO	I	KEY AD input.
16	I-CD SW	I	CD DOOR SW status detection input.
17	I-KEY1	I	KEY AD input.
18	I-MOTOR	I	DECK MECHA MOTOR status input.
19	I-REC	I	REC status input.
20	I-FM/AM	I	FM, AM status input. (Not connected)
21	I-TU DO	I	Data input from tuner PLL.
22	O-BASS LED	O	BASS LED ON/OFF control output. (Not connected)
23	O-QS LED	O	Q-Sound LED ON/OFF control output.
24	O-DUBB LED	O	LED control output used for high-speed dubbing.
25	O-INT	O	INT DIODE MATRIX detection output.
26	I-DRF	I	CD RF level detection input.
27	I-WRQ	I	CD sub-code Q standby input.
28	I-REMO	I	Remote control input.
29	S0/PA0	O	LCD segment output.
30	S1/PA1	O	LCD segment output.
31	S2/PA2	O	LCD segment output.
32	S3/PA3	O	LCD segment output.
33	S4/PA4	O	LCD segment output.
34	S5/PA5	O	LCD segment output.
35	S6/PA6	O	LCD segment output.
36	S7/PA7	O	LCD segment output.
37-40	S8-S11	O	LCD segment output.
41	VDD3	—	Power supply for microcomputer (+5V).
42	VSS3	—	GND.
43-54	S12-S23	O	LCD segment output. (51-54: Not connected)
55	O-CD LED	O	LED ON/OFF control output for CD functions.

Pin No.	Pin Name	I/O	Description
56	O-TU LED	O	LED ON/OFF control output for TU functions.
57	O-TA LED	O	LED ON/OFF control output for TAPE functions. (Not connected)
58	O-ROCK LED	O	LED ON/OFF control output for ROCK. (Not connected)
59	O-POP LED	O	LED ON/OFF control output for POP. (Not connected)
60	O-JAZZ LED	O	LED ON/OFF control output for JAZZ. (Not connected)
61-63	—	—	Not connected.
64-66	COM0-COM2	O	LCD common output.
67	—	—	Not connected.
68	VSS2	—	GND.
69	VDD2	—	Power supply for microcomputer (+5V).
70	O-CD ON	O	CD PWR control output.
71	O-TU ON	O	TU PWR control output.
72	O-P.CONT	O	Power supply control output.
73	$\overline{\text{O-H.DUBB}}$	O	Dubbing speed control output.
74	O-MUTE	O	Main mute output.
75	O-MO/ST	O	FM mono/stereo output. (Not connected)
76	O-BEAT CONT	O	BEAT switch over output. (Not connected)
77	BEAT	O	Beat control output for Q306.
78	O-COIN	O	CD command output.
79	I-SQOUT	I	CD sub-code Q input.
80	O-CQCK	O	CLK for CD commands/sub-codes.

MECHANICAL EXPLODED VIEW-1/1



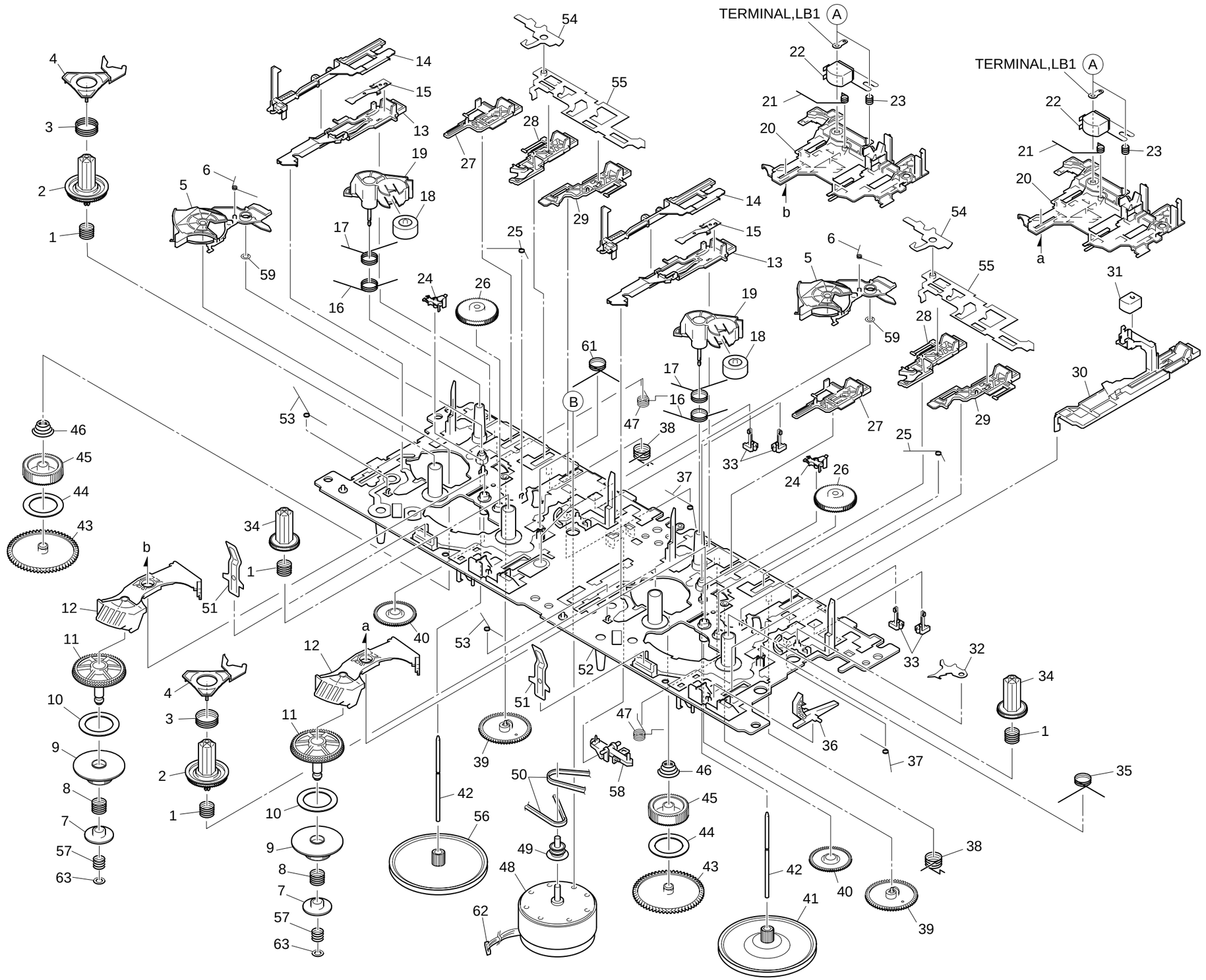
MECHANICAL PARTS LIST-1/1

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CT5-005-010		WINDOW,CASS L
2	8B-CT5-204-010		BOX,CASS L
3	8B-CT5-006-010		WINDOW,CASS R
4	8B-CT5-205-010		BOX,CASS R
5	8B-CTA-206-010		SPR-T,CASS
6	8B-CT5-002-010		WINDOW,DISP U
7	8B-CT5-001-010		CABI,FR U
8	8B-CT5-009-010		BTN,FUNC
9	8B-CT5-015-010		BTN,CD
10	8B-CT5-016-010		BTN,Q-SURROUND
11	8B-CT5-008-010		BTN,VOL
12	87-063-165-010		OIL-DMPR 150
13	8Z-CT9-641-010		CONN ASSY,2P PH(CD DOOR)
14	88-CT6-632-010		TERMINAL,ASSY MECHA 1P
15	8B-CT5-011-010		KEY,CASS L
16	8B-CT5-012-010		KEY,CASS R
17	8A-CT9-215-010		SPR-P,REC A
18	8B-CT5-208-010		SPR-P,REC
19	88-CD6-661-010		HLDR,BAR ANT.
20	86-CT9-205-110		HLDR,REC
21	M8-ZZK-E90-070		DA11T3C
22	88-CH6-220-010		CUSHION,CD A
23	8B-CT5-203-010		HLDR,LED QSUD
24	8B-CT5-201-010		HLDR,LCD
25	8B-CT5-202-010		HLDR,LED FUNC
26	8B-CT5-007-010		KNOB,RTRY MIC
27	8Z-CT6-214-010		RING,CHUCK
28	8Z-CT6-213-010		BASE,CHUCK
29	87-036-368-010		MAGNET
30	86-CT9-222-010		PLATE,MAGNET
31	86-CD4-225-010		CHUCK(A)
32	8B-CTA-009-010		LID,CD
33	8B-CTA-010-010		CHAS,CD
34	87-036-389-010		SW,PUSH LOCK
35	8B-CTA-205-010		SPR-T,CD
36	8B-CT5-004-010		PANEL,CASS R
37	87-063-164-010		OIL-DMPR 80
38	8Z-CT9-064-110		PANEL,CD SANYO
39	88-CT6-606-010		FFC WIRE 16P(1.0)
40	8B-CTA-022-010		HANDL,ARM
41	8B-CTA-023-010		HANDL,GRIP
42	8B-CTA-003-010		LID,BATT
43	87-A92-048-010		ANT,ROD
44	8B-CT5-023-010		CABI,REAR (2.7 OHM H)<LHSC>
44	8B-CT5-021-010		CABI,REAR (2.7 OHM N)<USC>
45	87-A90-086-010		COVER,AC-SOCKET
⚠ 46	8B-CT5-622-010		PT,H EI-57<LHSC>
⚠ 46	8B-CT5-620-010		PT,U EI-57<USC>
47	8B-CT5-003-010		PANEL,CASS L
48	86-CT9-213-010		SPR-C,BATT(-)
49	8B-CT5-207-010		BASE,BTN CD
⚠ 50	87-A60-178-010		JACK,AC E W/SW<LHSC>
⚠ 50	87-A60-177-010		JACK,AC U W/SW<USC>
51	86-CT9-212-010		SPR-C,BATT LINK
52	8B-CTA-029-010		HLDR,CORD SPKR
52	8B-CTA-209-010		HLDR,SPKR
53	8B-CTA-025-010		CABI,REAR SPKR L
53	8B-CTA-026-010		CABI,REAR SPKR R
54	8Z-CT6-647-010		SPKR,12 3.2OHM
55	87-B00-010-010		BADGE,AIWA 30.5-5.2 S 2.5L
56	8B-CT5-014-010		LENS,Q-SURROUND
57	8B-CT5-013-010		LENS,FUNC
58	8B-CT5-010-010		BTN,EQ
59	8Z-CT6-646-010		CORD ASSY,SPEAKER
A	87-751-097-410		SCREW 3X12
B	81-CD5-204-010		SCREW CD
C	87-751-095-410		VT2+3-8 W/O
D	87-571-095-410		VIT+3-8
E	87-651-100-410		VT1+3-16
F	87-651-075-410		VT1 +2.6-10
G	87-651-104-410		VT1+3-30
H	87-721-095-410		QT2+3-8GLD W/O SLOT
I	8A-CDA-222-010		S-SCREW,CASS+2.6-4
J	87-721-097-410		QT2+3-12 GLD
K	87-265-097-410		V+3-12 NI
L	87-751-096-410		VT2+3-10 GLD

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green		

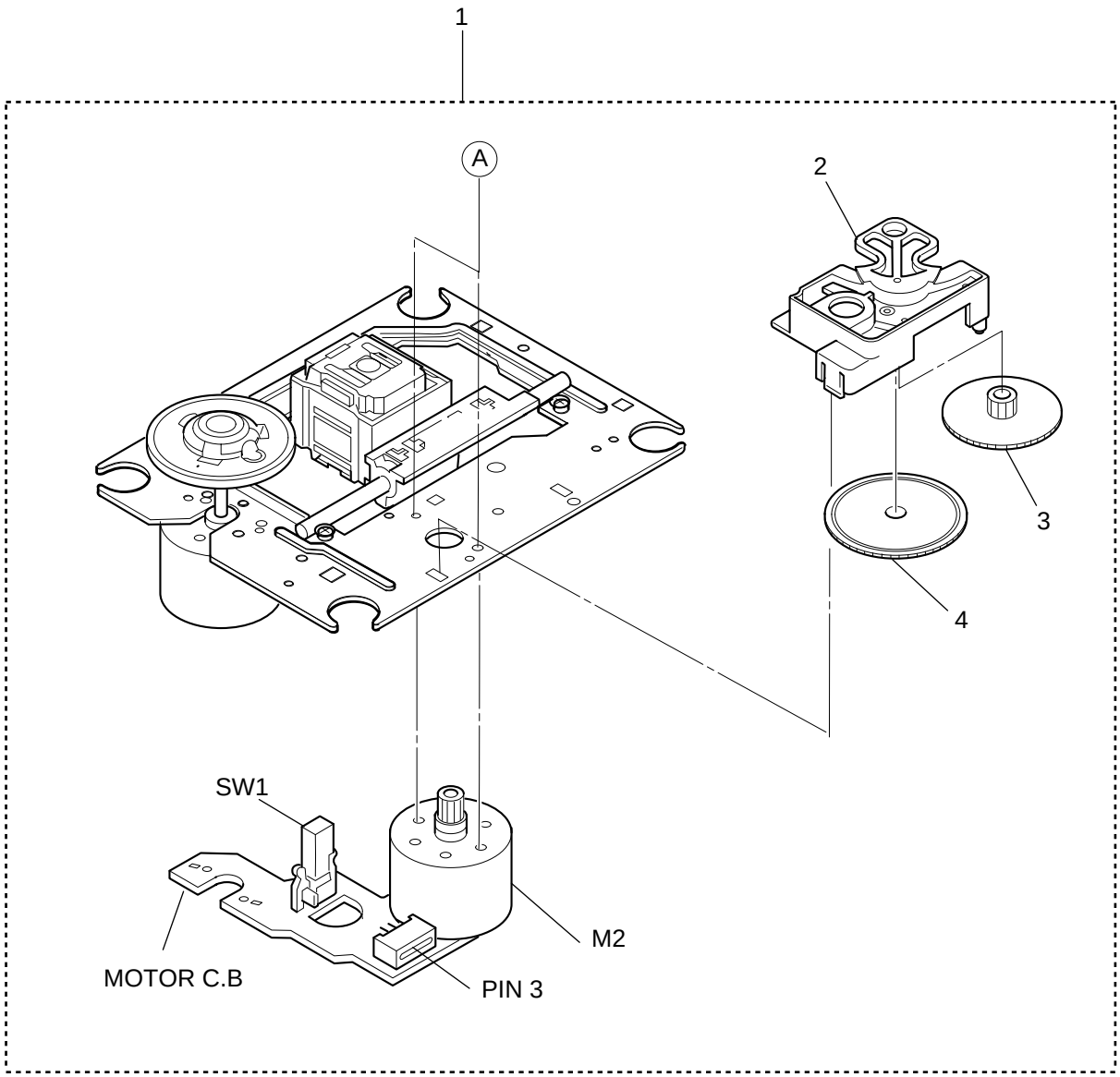
TAPE MECHANISM EXPLODED VIEW-1/1



TAPE MECHANISM PARTS LIST-1/1

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM1-254-310		SPR-C,REEL R
2	8Z-ZM1-225-110		GEAR,REEL R
3	8Z-ZM1-253-210		SPR-C,AUTO SENSOR
4	8Z-ZM1-217-110		LEVER,AUTO SENSOR
5	8Z-ZM1-212-210		LEVER,T-UP
6	8Z-ZM1-245-310		SPR-T,AUTO
7	8Z-ZM1-236-010		CLR,SLIP FF/REW
8	8Z-ZM1-252-110		SPR-C,FF/REW
9	8Z-ZM2-213-010		GEAR,SLIP FR A ZZM-2
10	8Z-ZM1-269-010		FELT,FF/REW 2
11	8Z-ZM1-238-110		GEAR,SLIP FF/REW B 2
12	8Z-ZM1-237-110		LEVER,FF/REW 2
13	8Z-ZM1-209-510		LEVER,PAUSE
14	8Z-ZM1-218-210		LEVER,E-LOCK H
15	8Z-ZM1-256-010		SPR-P,PAUSE
16	8Z-ZM1-244-110		SPR-T,T-UP
17	8Z-ZM1-247-310		SPR-T,PINCH
18	8Z-ZM1-261-110		ROLLER ASSY,PINCH
19	8Z-ZM1-221-210		LEVER,PINCH
20	8Z-ZM1-205-310		LEVER,PLAY
21	8Z-ZM1-248-210		SPR-T,BRG
22	87-A90-403-110		HEAD,RPH MS15R
23	84-ZM2-227-310		SPR-C,AZIMUTH
24	8Z-ZM1-216-110		LEVER,AUTO
25	8Z-ZM1-246-110		SPR-T,AUTO 2
26	8Z-ZM2-214-110		GEAR,IDL REW ZZM-2
27	8Z-ZM2-212-010		LEVER,STOP ZZM-2
28	8Z-ZM1-207-010		LEVER,FF
29	8Z-ZM1-206-010		LEVER,REW
30	8Z-ZM1-210-010		LEVER,REC<YR1NF>
30	8Z-ZM1-211-210		LEVER,REC 2<YR2NF,YR3NF>
31	87-A90-404-010		HEAD,EH LE15B<YR1NF>
31	87-A91-533-010		HEAD,EH PH-K380<YR2NF,YR3NF>
32	8Z-ZM2-218-010		LEVER,REC LOCK ZZM-2
33	87-A91-492-010		SW,LEAF MSW18560
34	8Z-ZM1-226-010		GEAR,REEL L
35	8Z-ZM1-241-210		SPR-T,PLAY
36	8Z-ZM1-220-110		LEVER,REC SENSOR
37	8Z-ZM1-249-210		SPR-T,FR
38	8Z-ZM1-242-310		SPR-T,FF/REW
39	8Z-ZM3-244-110		GEAR,CAM TD20
40	8Z-ZM1-232-010		GEAR,IDL FF/REW
41	8Z-ZM3-228-110		FLY-WHL,M3
42	8Z-ZM1-267-110		SHAFT,CAPSTAN 2
43	8Z-ZM1-228-010		GEAR,SLIP T-UP B
44	8Z-ZM1-265-010		FELT,T-UP
45	8Z-ZM1-227-010		GEAR,SLIP T-UP A
46	8Z-ZM1-251-210		SPR-C,T-UP SLIP
47	8Z-ZM1-243-310		SPR-T,STOP/PAUSE
48	87-A91-532-010		MOT,MS15U2LW1A
49	8Z-ZM1-235-010		PULLEY,MOT
50	8Z-ZM2-216-010		BELT,MAIN M
51	8Z-ZM1-260-010		SPR-P,CASETTE
52	8Z-ZM2-201-510		CHAS ASSY,ZZM-2
53	8Z-ZM1-255-310		SPR-T,E-LOCK
54	8Z-ZM2-219-010		LEVER,E-OPEN ZZM-2
55	8Z-ZM1-214-310		LEVER,LOCK
56	8Z-ZM2-211-210		FLY-WHL,ZZM-2
57	8Z-ZM1-257-110		SPR-C,F/R
58	8Z-ZM2-210-010		LEVER,BRIDGE<YR2NF,YR3NF>
59	87-B10-301-010		W-L,1.63-3.2-0.5 SLIT
60	87-A91-494-010		SW,LEAF MSW17820<YR1NF,YR2NF>
61	8Z-ZM1-241-010		SPR-T,PLAY<YR1NF>
61	8Z-ZM2-217-010		SPR-T,PLAY 2<YR2NF,YR3NF>
62	8Z-ZM2-601-010		CONN ASSY,9P ZZM-2<YR1NF>
63	8Z-ZM1-275-010		W-L,1.47-4-0.25<YR1NF>
A	84-ZM2-242-010		S-SCREW,AZ1-2-6.4
B	8Z-ZM2-220-110		V+2.6 ZZM-2

CD MECHANISM EXPLODED VIEW-1/1



CD MECHANISM PARTS LIST-1/1

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	M8-ZZK-E90-070		DA11T3C
2	S2-121-A28-400		COVER GEAR
3	S2-511-A21-000		GEAR MIDDLE
4	S2-511-A21-100		GEAR,DRIVE
A	S1-PN2-03R-OSE		SCR PAN PCS 2-3

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2–11, IKENOHATA 1–CHOME, TAITO-KU, TOKYO 110-8710, JAPAN TEL:03 (3827) 3111

H251701

Printed in Singapore